

OVERSEAS NEWS

Israel to allow Jewish school in Arab city

BY L. DANIEL IN TEL AVIV

ISRAEL'S CABINET yesterday decided to permit a Jewish school to be set up in two Jewish-owned houses in the centre of the Arab town of Hebron, on the occupied West Bank. The decision will strain still further Israel's relations with the West Bank Arabs, with Egypt and with the U.S. Administration.

The vote was a narrow eight in favour, six against, with two abstentions. Mr. Josef Burg, the Interior Minister, Israel's chief negotiator in the autonomy talks and a senior National Religious Party member of the Cabinet, did not participate since he had to receive Mr. Sol Linowitz, the U.S. chief negotiator at the

talks, before negotiations start again in Alexandria on Thursday.

Among those opposed were Mr. Ezer Weizman, the Defence Minister, and both deputy premiers — Mr. Yigael Yadin (Democratic Movement) and Mr. Simha Ehrlich (Liberals). Mr. Yadin intends to appeal to the Knesset (parliament) foreign affairs committee, and the decision will not, therefore, come into effect until the committee approves it.

Mr. Ehrlich warned, after the meeting, that he may have to reconsider his participation in the Government. If the Liberals or the Democratic Movement were to pull out of the coalition,

Mr. Menachem Begin, the Prime Minister, would lose his majority in the Knesset.

A decision had been postponed several times and could not have come at a worse time. Three of the Cabinet's "hawks" favoured postponing it again but Mr. Begin insisted on a vote. This insistence may well have been an emotional reaction to the criticism voiced recently in Cairo and Washington.

On Friday, Mr. Begin received a long message from President Anwar Sadat of Egypt, which accused Israel of dragging its feet in the autonomy negotiations. The text of the letter has not been published, but Presi-

dent Sadat is reported to have singled out Israel's failure to reply to his proposal for autonomy to be introduced in stages, beginning with the Gaza Strip.

Roger Matthews adds from Cairo: Egypt has stepped up its diplomatic offensive against Israel, with increasingly blunt warnings from President Sadat on the consequences of failure in the Palestinian autonomy talks, due to be concluded by May 28.

Mr. Sadat is understood to be ready to hold another full summit meeting with President Jimmy Carter and Mr. Begin in Washington next month, if the earlier bilateral talks offer

some glimmer of progress. Mr. Sadat is scheduled to see President Carter on April 3, and will remain in the U.S. while he holds talks with Mr. Begin.

Mr. Sadat has said repeatedly in the past week that Mr. Begin will be solely responsible if the negotiations collapse.

Egypt insists that May 28 is the deadline for agreement on the structure and powers of an autonomous Palestinian authority on the occupied West Bank and Gaza Strip. Senior Israeli officials, however, confidently expect that Mr. Sadat can be persuaded to continue negotiations after May 26 and stick to their view that it is merely a target date.

OECD talks review oil cost impact

By David White in Paris

SENIOR ECONOMIC and energy officials from the principal countries of the Organisation for Economic Co-operation and Development studied means for joint action to smooth out the impact of sharply fluctuating oil prices on national economies at a meeting at Versailles over the weekend.

The economic officials agreed that adjustment of national energy prices in line with crude oil costs was the most appropriate way of controlling consumption. Mr. Emile van Lennep, the OECD's Secretary-General said.

Delegates indicated that the U.S. import fee announced ten days ago as part of President Carter's economic package had been favourably received.

The meeting, held at Mr. Van Lennep's initiative, was the first of its kind, bringing together those responsible for both macro-economic policies.

Participants included Mr. Charles Schultz, chairman of President Carter's Council of Economic Advisers, Dr. Ulf Lunde, executive director of the International Energy Agency (IEA), IEA board chairman, Mr. Niels Erbskov, and representatives from the seven leading Western countries and some smaller OECD members.

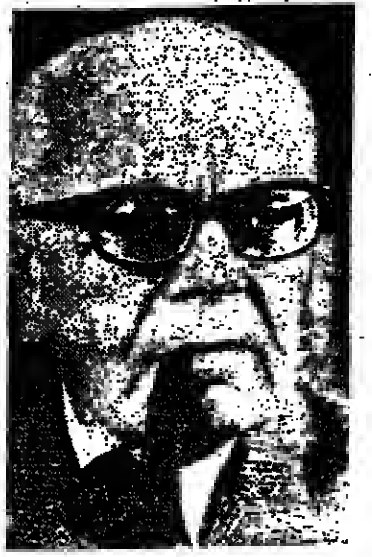
Cossiga asked to form Italian Cabinet

BY PAUL BETTS IN ROME

SIG. FRANCESCO COSSIGA, the Italian Christian Democrat leader, who resigned as Prime Minister last week, was asked yesterday by President Sandro Pertini to try to form a new government.

After receiving the mandate from the President Sig. Cossiga said yesterday he would start immediate consultations with the political parties in an attempt to reach broad consensus on a government programme.

Although it is still premature to forecast the outcome of Italy's latest government crisis — the 35th since the formation of the Republic 35 years ago — there are already signs that Sig. Cossiga might succeed in finding the necessary Parliamentary majority to support a new administration.



President Pertini: appears to have leaned on Socialists

This follows the decision of the Central Committee of the Socialist Party, which holds the key balance of votes in the Italian Parliament, to give Sig. Bettino Craxi, its secretary-general, the go-ahead to negotiate the formation of a coalition with the Christian Democrats.

Despite the deep divisions within the Socialist Party, President Pertini, himself a Socialist, appears to have leaned on his party colleagues to adopt a constructive attitude to the latest crisis.

President Pertini emphasised at the weekend that he wants a quick solution because of the repercussions prolonged uncertainty could have on Italy's international commitments. These include the Presidency

of the European Council, and Sig. Filippo Pandolfi's chairmanship of the International Monetary Fund's Interim Committee in the late spring: another pressure on the political parties to resolve the crisis.

Although the Socialists are likely to press their demand that a Socialist should be Prime Minister in any new coalition government, the Christian Democrats are expected to appointing Socialists to key Cabinet posts, and possibly to reject this, but may agree to a Socialist deputy Prime Minister in a future coalition.

Iran lawyers in Panama for Shah's extradition deadline

BY SIMON HENDERSON IN TEHRAN

A GROUP of lawyers, believed to be French, have arrived in Panama to put Iran's case for the extradition of the former Shah of Iran. The Iranian extradition request has to be formally filed today — 60 days after the original notification.

Mr. Hamilton Jordan, U.S. President Carter's chief of staff, is also in Panama, where he is thought to be sorting out arguments over where the Shah has surgery to his spleen, which is

said to be cancerous.

In Tehran at the weekend, Mr. Sadeq Ootzadeh, the Iranian Foreign Minister, added a new dimension to the extradition proceedings when he said that Dr. Henry Kissinger, the former U.S. Secretary of State, and Mr. David Rockefeller, the chairman of the Chase Manhattan Bank, were engaged in a plot to remove the Shah from Panamanian territory and thus foil Iran's attempt at extradition.

He gave no further details of the allegation but Dr. Kissinger and Mr. Rockefeller are familiar targets for political condemnation in Iran, where they were considered instrumental in allowing the Shah to enter the U.S. last October — an event which precipitated the seizure of the U.S. embassy and staff in Tehran.

Mr. Ootzadeh said he thought that if the Shah was removed from Panama (implying out of the country or to a

U.S. hospital in the Canal Zone) it would have a disastrous effect in Iran and would prolong the process of freeing the embassy hostages.

In Iran itself, a mystery fire was reported on Saturday morning at two oil wells at Ahwaz, the main town in the south-western oil-producing Khuzestan Province.

Because of the Iranian New Year holidays, no official details of the fire or its effect on oil production were available. A

statement from the local revolutionary guards said they were investigating the possibility the fire was caused deliberately. For many months now, Iranian oil pipelines have been sabotaged at a rate of about one a week.

If it is sabotage this would be the first time oil wells themselves were affected. The saboteurs are believed to be local Arab separatists acting with support from neighbouring Iraq.

Reform of U.S. financial system planned

BY STEWART FLEMING IN NEW YORK

THE DEPOSITORY Institutions Deregulation and Monetary Control Bill represents the first cohesive attempt by the Congress to reform the U.S. banking and financial system in order to take account of the distortions and changes which have accompanied the rise in the inflation rate over the past decade.

The effort has been the particular preoccupation for the past year or so of Congressman Henry Reuss, Chairman of the House Banking and Currency Committee.

Partial attempts to deal with specific problems have been made. For example, in June 1978 the Federal Reserve authorised the issue by banks and savings institutions of six-month savings certificates paying market-related rates of interest. The aim was to try to ensure that funds did not flood out of the banks and savings and loans associations as interest rates elsewhere in the economy rose. It was feared at the time that such an outflow would hit the housing industry.

In the event, inflation and interest rates have risen to such heights that narrower concerns

have been overtaken by events. But the acceleration in inflation has begun to result in such distortions of the financial system that the need to act has become overwhelming.

These problems include a quickening in the pace at which banks have begun to leave the Federal Reserve System.

Interest rate costs to banks and other lenders have risen, meaning that in some states usury law ceilings limiting the rate of interest which can be charged on consumer and in some cases corporate loans, are below the cost of money to the banks, thus eliminating their incentive to lend. Last December, Congress passed a law to override until March 31 state usury ceilings on mortgage rates. The expiry of that law this week has been one factor making acclion in Congress urgent.

Another has been the imminent expiry of a temporary stay, until March 31, of a court ruling that outlawed automatic transfer accounts. Banks across the country established such accounts which permit them in

effect to pay interest on deposits.

From a political standpoint the elimination of these accounts and the opportunity to earn interest on checking or demand deposits, would clearly not have endeared Washington's politicians to the voters.

In part, similar considerations account for the decision to phase out Regulation Q interest rate ceilings on ordinary savings accounts. A move to give savers a better deal by allowing them to receive more than 5½ per cent on regular savings accounts is clearly politically attractive.

It has also become important in terms of the structure of the financial system. Savings institutions and banks have begun to lose deposits to the rapidly growing money market mutual funds, hence the efforts of the Fed last week to curb the fund's growth by imposing a non-interest bearing reserve requirement on them. In the past year, the assets of the funds have risen from \$10bn to over \$80bn.

Eliminating Regulation Q

will give the banks and savings institutions greater flexibility in attracting deposits and competing. But a major problem is that permitting savings institutions, in particular, to pay more will raise their costs at a time when some 70 per cent of the \$700bn of assets are invested in home loans earning rates of interest fixed at 10 per cent or less. In the U.S. (unlike the UK, for example), most home loans are made on fixed terms for the life of the loan.

To ease the increased cost burden from removing Regulation Q, the change is to be carried out over a period of six years. In addition, however, the thrift institutions are to be allowed in a number of ways to improve their services and potentially the earnings of their assets. They will be allowed to invest one-fifth of their assets in consumer loans and corporate debt, and they will be able to issue credit cards.

Even more far-reaching change seems to be needed, such as permission to issue mortgages with variable interest rates. But political opposition



Congressman Henry Reuss: preoccupied with reforms

to that proposal appears to be unlikely to weaken.

Clearly, however, the changes being proposed will alter the balance of competition between savings and loan associations and commercial banks. Each side seems to feel that the compromises which have been struck are satisfactory.

Fighting dies down in Chad capital

By Our Foreign Staff

A FRAGILE ceasefire was in force last night in N'djamena, the capital of the central African republic of Chad, after a day of bitter fighting, according to reports from the city.

Fighting between rival Muslim factions loyal to the Prime Minister Hissene Habre and President Goukoni Oueddei broke out at dawn and went on until late in the morning. Cannon, mortar and machine gun fire was heard.

At the same time, U.S. officials in Washington said American diplomats and their dependants should leave the country as soon as there was a lull in the fighting.

The continued fighting has shown how little has been achieved since the Lagos accord was signed last year. The agreement signed between all 11 political and military factions provided for a government of national union, a demilitarised zone around N'djamena and a neutral pan-African force.

Hungary Congress opens

BY PAUL LENDVAY IN BUDAPEST

THE HUNGARIAN Communist Party Congress, which begins here today, is expected to reaffirm the moderate political line of Mr. Janos Kadar, the party leader, and to approve the continuation of the country's daring economic reforms.

Hungarians are confident that Mr. Andrei Kirilenko, the Soviet Central Committee Secretary who heads the Soviet delegation, will publicly endorse Hungary's foreign and domestic policy, and will pay a personal tribute to Mr. Kadar's leadership.

The Congress, which will last until Friday, will be a low-key, working conference in tune with the sober and somewhat depressed mood in Hungary, where prices rose by 9 per cent

last year, a rate unprecedented in a Communist country, and agricultural growth target last year.

No sweeping changes in the leadership are likely. Some already retired politicians, formally still members of the ruling Politburo, may be replaced. Likely candidates for promotion to the Politburo are Mr. Foranc Havasi, the Central Committee Secretary in charge of economic affairs, Mr. Lajos Rencs, the Budapest party chief, and possibly Mr. Imre Pozsgay, the Minister of Culture.

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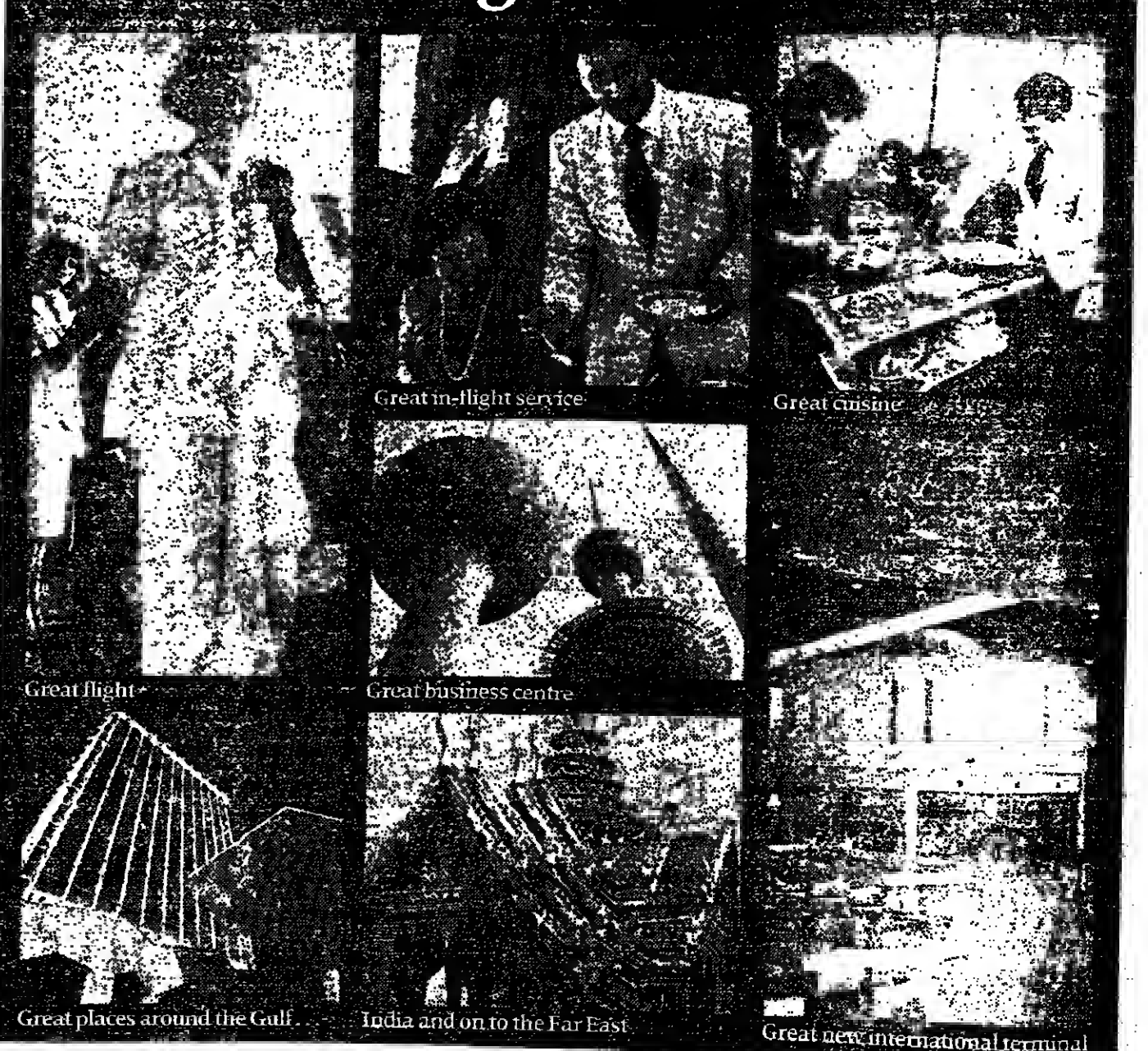
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مركز من الأجل

Italy considers collaboration in joint Airbus assembly plan

BY PAUL BETTS IN ROME

THE ITALIAN aerospace industry is reported to be holding talks with Airbus Industrie, the consortium responsible for the construction of the A-300 and A-310 Airbus aircraft, which could lead to Italian collaboration in the joint project between Britain, France, Spain and West Germany.

Airbus Industrie is understood to be interested in sub-contracting construction of some of the aircraft's parts to Italian aerospace groups. This would ease some of the current production difficulties of the Airbus programme. It would also represent some competition for Italy whose national airline, Alitalia, has recently ordered nine A-300 aircraft.

The talks are still thought to be at an early stage, although some of Italy's smaller aircraft manufacturers have apparently already expressed considerable interest.

The larger Italian aerospace groups, like the state-owned Aeritalia concern now working on the Boeing B 767 medium range passenger carrier, are also understood to be interested, but are reported to be seeking better financial conditions than those so far offered for possible sub-contractors.

But the current talks could eventually lead to broader collaboration between Italian aerospace companies and members of the Airbus consortium.

● Sabena Airlines of Belgium and Varig Airlines of Brazil have signed an agreement that will pave the way for final negotiations over the inauguration of flights between Brussels and Rio de Janeiro, Diana Smith writes from Brasilia.

Robert Gibbons adds from Montreal: Canadian Pacific Airlines has ordered two additional DC-10, series 30, airlines and

supporting equipment from McDonnell Douglas at a cost of over Can\$132m (£51m). CP Air is currently flying one DC-10 aircraft and three more are due to enter service this year. Michael Donne Aerospace correspondent adds: Airbus Industrie, in which British Aerospace has a 20 per cent stake, is aiming to sell at least another 60 aircraft this year. Last year it set itself a sales target of 100 aircraft and actually sold 122.

Several further sales in Europe, the Middle East and Africa are now in negotiation and the group hopes to announce new contracts soon. A senior sales executive said they were confident of reaching the 60 aircraft target in the coming months. In the meantime, the group is planning to raise the production rate on the existing types of Airbus to meet the rising demand.

competitiveness with other OECD countries. The ten-year \$50m loan to the Bogota state electricity utility carries a 7.5 per cent annual fixed interest rate, for which Morgan Grenfell will receive a commercial return through a subsidy from Mediocredito Centrale, the Italian state export financing agency.

First dollar export credit signed

BY OUR ROME CORRESPONDENT

Morgan Grenfell has finalised a \$55m loan, backed by the Italian state export credit agency, SACE and Mediocredito, for the state electricity utility of Bogota in Colombia.

The loan will finance the export from Italy of equipment and services manufactured by the Brescia-based ATB group for a hydro electric project in

the Cundinamarca region of Colombia. Total investment in the project is estimated at about \$312m.

The loan is the first under the new system whereby the new Italian export credit agencies allow Italian exporters to bid in dollars for international contracts, which improves their

competitiveness with other OECD countries.

The ten-year \$50m loan to the Bogota state electricity utility carries a 7.5 per cent annual fixed interest rate, for which Morgan Grenfell will receive a commercial return through a subsidy from Mediocredito Centrale, the Italian state export financing agency.

Rise in Third World debt seen

BY BRIJ KHANDARIA IN GENEVA

THE FOREIGN debt of developing countries which do not export oil will reach \$440bn in 1981, up from an estimated \$384bn this year and \$329bn last year.

The current account deficit of such countries will reach nearly \$70bn in 1981, a rise from an estimated \$63bn this year and \$41bn last year.

These forecasts were made in a report by the UN Conference on Trade and Development (UNCTAD) whose decision-making board met here to review problems plaguing econo-

mic relations between rich and poor countries.

The board, in its meetings, highlighted the dramatic deterioration in prospects for the economic development of poorer nations as a direct result of the economic stagnation and recession still dogging the Western industrial nations and Japan.

According to a keynote report prepared for the board meeting, the purchasing power of non-oil-exporting developing countries will increase this year by less than 1 per cent because of sharp drops in their exports to richer nations suffering

economic slowdown.

The poor export earnings also mean that such developing countries will manage to increase imports by only about 4.5 per cent a year in 1980 and 1981, compared with about 9 per cent in 1978 and 1979.

The world's 30 poorest nations will achieve economic growth rates of only 2.6 per cent this year, which could rise to 3.4 per cent next year, provided that they manage to get enough foreign aid to sustain current import levels and their economic development plans are not scuttled by drought or famine.

Dutch gear system interests car makers

By Charles Batchelor in Amsterdam

THE LINKS established between Van Doorne Transmissie (VDT), Fiat and Borg-Warner have led to increased interest by European and U.S. car makers for the Dutch company's automatic transmission system.

VDT had established contact with nearly all European car makers before it linked up with the U.S. and Italian companies but the latter contacts have now been increased, while additional companies have joined according to Mr. E. Ramstra Pk, VDT's managing director.

However VDT said it could not comment on Dutch Press reports that Borg-Warner is to start making 50,000 gear boxes a year in the UK in 1983 (including the Dutch company's transmatic system. The gearboxes are reportedly for use in a new model of the Fiat Strada.

Scientific institutes, notably a large institute in West Germany, have also taken an increased interest in VDT's transmatic system.

Borg-Warner and Fiat each agreed in December 1978 to put up £1.44m (\$7m) to acquire a 24 per cent stake each in the share capital of VDT, which has been doubled to £1.6m.

Peru ready for exploration deals with foreign oil concerns

BY DOREEN GILLESPIE IN LIMA

PETROPERU, THE State oil company, is preparing to start negotiations for new exploration and development risk contracts, mainly in the jungle where well over half of Peru's oil is produced, with five international groups from which it says it has received letters of intent.

The companies include Husky of Canada, which is interested in a joint venture in the jungle with Petroperu and a service contract in 100-year-old oil fields on the northwest coast; Royal Dutch Shell, which is interested in exploration and development contracts in the central southern jungle; Superior of the U.S., which is interested in the jungle region; as well as a consortium formed by Allied Chemical and C. and K. Petroleum of the U.S., with a local seismic company called Sismica Sociedad Anonima.

The other interested company is Mapco of the U.S., which has been trying to close a secondary recovery contract with Petroperu for the past two years.

This development has come at the same time as finance officials said that Belco Petroleum and Occidental Petroleum have reached agreement in principle on a new production split and tax deal for their contracts which are currently being renegotiated.

The Belco deal is, apparently, that the traditional 50-50 production split will continue, but that the contractor will pay corporate income taxes on its profits. These taxes were previously paid from Petroperu's share of the oil.

A similar agreement is expected with Occidental Petroleum, but final agreement and

a formal announcement on renegotiated contracts is considered unlikely before the middle of April.

Petroperu is soon to receive a recently-approved \$32.5m World Bank loan which is to be applied to a \$50.7m project mainly to revive old wells through secondary recovery operations in the northwest fields and also to overcome technical problems in the state oil company's jungle fields.

The loan is to be repaid in 17 years with three years grace at 3.75 per cent plus 0.75 per cent commitment commission.

Peru has moved from a net oil importer to a self-sufficient oil-producing country over the past two years due to new jungle oil production, mainly from Occidental Petroleum. It is predicting oil exports this year in the order of a \$1bn.

Enka withdraws disputed product

BY OUR AMSTERDAM CORRESPONDENT

ENKA, the fibres division of the Dutch chemicals group Akzo, has withdrawn from sale one version of its product Arnitel over which it is engaged in a patents battle with Du Pont. Enka said it has done so to avoid exposing its customers to the risk of claims for damages.

Enka has only withdrawn one of the five types of Arnitel which it is currently test marketing and has only taken this action in the Netherlands. Sales of the other four types are continuing as are sales of all types in the UK, France and West Germany.

This withdrawal does not mean ENKA accepts Du Pont's claim that it has infringed its patent on the thermoplastic elastomer, which Du Pont sells as Hysrel. Enka has already asked the Dutch patents office to declare the Du Pont patent null and void and replied to Du Pont's allegations on March 21 by rejecting them.

Mitsubishi steel mill for China

By Richard C. Henson in Tokyo

MITSUBISHI Heavy Industries (MHI) has won the ¥85bn (£155m) contract to construct a hot strip mill at China's new Baoshan steel mill complex under development near Shanghai with the co-operation of Nippon Steel.

The plant will be capable of producing 4m tonnes of continuous 80 inch steel hoops annually in a single line. Shipment of the equipment will begin next year and continue for four years. Payment will be on a deferred basis in five annual instalments after delivery, half in dollars and half in yen.

Nippon Steel has almost finished the first blast furnace at the complex, which has a capacity of 3m tonnes a year. Another downstream mill contract for seamless pipe has been given to a West German company, while the contract for a cold strip mill has yet to be awarded.

● Reuter adds: Japan's Saudi Petrochemical Development will sign an agreement with Saudi Basic Industries early next month to start feasibility studies on building a \$1.6bn petrochemical complex in Saudi Arabia.

The studies, which will last about a year, will consider the building of a complex at Jubail in eastern Saudi Arabia by around 1986, aimed at producing petrochemical products from natural gas.



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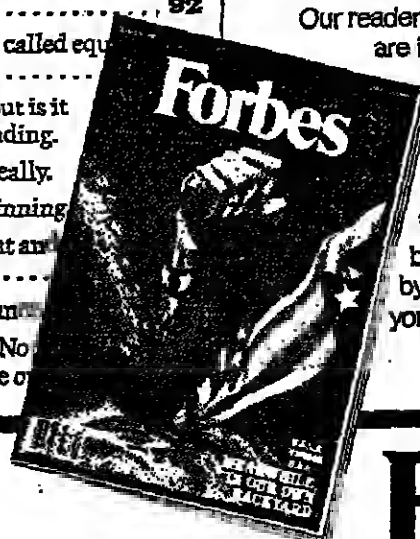
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SHIPPING REPORT

Grain trade strengthens

BY WILLIAM HALL, SHIPPING CORRESPONDENT

THE MOST impressive feature of the world's freight markets currently, is the strength of the grain trades. Last week a \$3,000 ton cargo was fixed for a standard voyage from the U.S. Gulf to Europe at \$20 per ton.

This is nearly a fifth above recent rates for similar sized cargoes and is the highest level for many years. To put it in context, rates for 50,000 ton grain cargoes (U.S. Gulf/Europe), averaged between \$5 and \$7 per ton during the period 1976 and 1979 according to the 1979 Annual Review of the Oslo-based, Fearnley and Egers Chartering Company.

U.S. Gulf/Europe is one of the most important grain trading routes and last year rates averaged \$14.20 per ton. This year, they have been substantially higher, notwithstanding the U.S. decision to halt further grain exports to the Soviet Union—the world's largest importer.

The Russians have recently

reappeared in the time charter market (an indication that they want to secure tonnage before rates rise still further) and of A. T. Massey—America's tenth biggest coal producer. Most of the big oil majors have been moving into coal mining in a big way. This should ease the transportation problems, which centre mainly on the small size of many of the world's coal ports.

Period rates have risen by up to a fifth and "handy-sized" bulk carriers can now command \$10,000 per day and larger bulk carriers—the so-called Panamax types of 60,000 dwt—are earning up to \$15,000 per day. These rates compare with \$4,500 per day in the depths of the shipping recession 18 months ago.

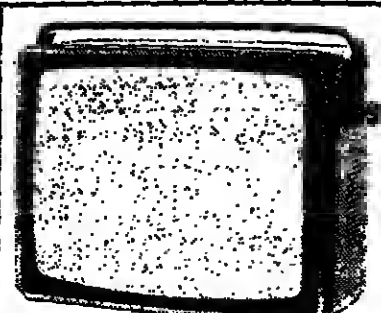
In the dry cargo markets, the other talking point last week was Shell's massive \$680m purchase of 50 per cent of A. T. Massey—America's tenth biggest coal producer. Most of the big oil majors have been moving into coal mining in a big way. This should ease the transportation problems, which centre mainly on the small size of many of the world's coal ports.

R. P. Drewry, the London shipping consultants, report that seaborne trade in steam coal has more than doubled to 47.4m tonnes since 1973.

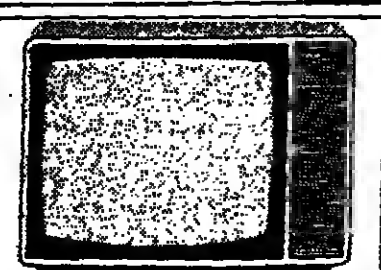
World Economic Indicators

	FOREIGN EXCHANGE RESERVES (Millions of U.S.\$)			
	Jan. '80	Dec. '79	Nov. '79	Jan. '79
UK	18,822	18,592	18,132	15,543
U.S.	4,448	3,779	4,122	5,198
Germany	46,150	47,348	46,084	40,466
Italy	18,538	17,259	17,427	11,291
Holland	7,239	4,469	6,385	4,678
Belgium	4,078	4,097	4,899	2,643
Japan	14,849	14,357	14,215	23,941
France	17,816	16,100	15,197	8,711

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UK NEWS

Tax cuts' effect on work hours 'limited'

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

THE LARGE income-tax cuts in last June's Budget have had only a limited impact on the public's attitude to work so far. This is indicated by a Gallup poll commissioned for last night's BBC2 Money Programme.

Only 14 per cent of those interviewed say the cuts encouraged them to work more hours. Some 6 per cent say they are going to work fewer hours to earn the same money. More than three-quarters say the cuts made no difference.

Of the 14 per cent, 9 per cent say they are working more overtime or longer hours, and 5 per cent say they have a spare-time job to earn more money.

Of manual workers interviewed, a fifth say they are working more hours and 71 per cent say their work pattern has not changed.

Of the 4 per cent professional workers working harder, 1 per cent are working longer hours in their full-time employment. The other 3 per cent started spare-time jobs, while working the same hours in their main employment. But 89 per cent say the cuts made no difference.

The replies appear to raise doubts about the Government's views on tax cuts and incentives with caution, but the results suggest the cuts have not had as favourable an impact on

attitudes as the Government hoped.

The Government would not doubt argue that the incentive effects will take several years to work through and cannot be measured merely in hours worked.

Ministers would also say the impact of incentives will be seen in a willingness to work, take risks, seek promotion and set up new businesses.

The impact appears to be larger than average at both bottom and top ends of the range. Roughly a fifth of those with annual incomes of less than £3,940 and of more than £10,000 say they are working more hours.

This difference is hardly surprising. A large number of people were taken out of tax at the bottom end and the cuts were proportionately greatest for those with higher incomes.

● Tax rates in the UK are well below levels where tax revenue would reach a maximum, according to a study published today by the Independent Institute for Fiscal Studies.

In the March issue of Fiscal Studies, its quarterly journal, Mr. Richard Hemming and Mr. John Kay of the Institute examine the Laffer curve. This shows there is a maximum to the proportion the Government can raise in tax revenue.

The authors suggest this maxi-

mum is not less than 80 per cent of national income, more than double the current average rate.

The issue also contains articles on company taxation, the Common Agricultural Policy, capital transfer tax and farming, and public spending. (£10 on subscription, £4 single issue from 1, Castle Lane, London SW1E 6DR.)

● A series of essays on the entrepreneur's role in generating economic growth is published today by the Institute of Economic Affairs.

Prime Movers of Progress: the Entrepreneur in Capitalism and Socialism, IEA Readings 23, price £3.50.

Plea for common food policy

BY RICHARD MOONEY

THE EEC should replace its common agricultural policy with a common food and agriculture policy, the UK Provision Trade Association says in a report published today.

"This would bring EEC policy back more into line with the original goal of the Treaty of Rome to bring food to the consumer at reasonable prices," says the association.

It says prices should be closer to world levels with farm incomes being boosted "where necessary" by judicious use of subsidies.

It calls for more imports from outside the community to act as a brake on "unbridled" expansion of Common Market production. This would help prevent the accumulation of surpluses.

"As long as surpluses last it is preferable to use consumer subsidies to dispose of them inside the community rather than sell them on world markets through export refunds."

The report welcomes recent moves by the EEC Commission to hold down price increases but says more drastic action is needed.

It also calls for more stability in the EEC's "agromoney" arrangements by allowing more advance fixing of export subsidies and import levies.

Mr. E. J. A. Edwards, the association's president, said the report was not anti-European. "We are just anti the Community Agricultural Policy as it affects the interests of the UK."

He said the association had misgivings about Britain's entry terms and added: "After seven years there has been no basic change. We have had lots of sympathy from Brussels but no action."

Food traders had no effective voice in Brussels because there was no community-wide association, Mr. Edwards said.

A copy of the report has been sent to Mr. Finn Gundlach, the EEC agricultural commissioner.

Navy to develop new power unit

BY DAVID FISLOCK, SCIENCE EDITOR

THE NAVY is to spend \$2m on the design and assembly of a large advanced-technology electric motor, the windings of which will run at a temperature of minus 269 degrees C. It would be used as a silent propulsion plant for future submarines and warships.

The Ministry of Defence contract has been awarded to International Research and Development, the Newcastle research company, owned jointly by Northern Engineering Industries, Parsons and Vickers.

Over the next three years, a team headed by Dr. Tony Appleton plans to assemble and test a superconducting motor about 17 feet long.

Liquid helium will keep its windings at a temperature close to absolute zero—low enough for all electrical resistance to disappear. Very intense magnetic fields can be created in this way and are already widely used in scientific instruments.

As a result, the motor is expected to have a performance which could be approached only by conventional electric motors much larger in size and weight.

Advantages claimed for DC superconducting motors include the simplicity and robustness of design, high efficiency and a much lower cost than any conventional electric drive could offer at high power.

A small prototype of such a motor, funded by the Navy, was built by the IRD in the early 1970s. It is the first of its kind in the world. After an interval in which no further funds became available, the Navy has rekindled what IRD executives believe could be a 10-year programme for development of the new marine propulsion system.

The research centre is co-operating with a State-owned Canadian group, Transport Canada, in investigating another marine propulsion system for giant gas tankers. They foresee a need for 200,000-ton ice-breaking tankers to bring liquefied natural gas from the Arctic.

Present indications are that such a vessel would need to be driven by three motors of 44 megawatts each, running at 100 rpm. IRD believes its homopolar DC superconducting motor would be substantially cheaper than conventional AC motors, the only electrical alternative at present.

Mr. Sidney Robeson, its managing director, says it has completed a design for a 120 MW AC generator. This could be the prototype of 1,300 MW generators much smaller and cheaper than present-day machines.

Call to use farm funds for industrial mobility

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT

THE Engineering Employers' Federation is urging the European Parliament to vote for a shift of funds from the Common Agricultural Policy to manufacturing industry. It suggests that 15 per cent of agriculture funds could be reallocated to sponsor mobility of industrial workers.

The letter, suggesting that these funds should be switched from "feather-bedding farmers and financing lakes and mountains, to sponsor industrial mobility," has been sent to all Euro-MPs in the UK to coincide with the reconvening of the

Parliament in Strasbourg for the continuation of the Budget debate.

The federation says: "We believe that the powerfully lobbied view of the farmers should be countered by the presentation of a practical view from manufacturing industry."

It says that the channels for helping industrial workers move to areas where they could be productively employed already exist in the regional and social funds. A shift in funds "would raise the morale of industry and give Britain a fairer deal."

Engineers turn down Finniston proposal

BY ROBIN PAULEY

A GOVERNMENT-controlled British Engineering Authority, proposed in the Finniston report, is esopically rejected by the Institution of Municipal Engineers.

The report is the result of a committee of inquiry into the engineering profession set up in 1977 under the chairmanship of Sir Monty Finniston. It was to analyse the situation, with particular reference to manufacturing industry, and propose reforms.

In a submission to Sir Keith Joseph, Industry Secretary, and Mr. Michael Heseltine, Environment Secretary, published today, the institution says such an authority would be a misuse of resources and relatively expensive in terms of public funds.

"It is quite wrong in principle for such a body to be set up under Government control instead of as an effective instrument of professional control."

"It would duplicate a considerable amount of work already carried out by the profession, particularly in the construction group. It would also take a very long time to implement and produce any significant results or improvements," says the institution, which has 10,000 members.

After consultation with the Institutions of Civil Engineers and Structural Engineers, the municipal engineers recommend an engineers registration council on the lines of the General Medical Council or the Architects Registration Council.

UK-Irish federation suggested

By Our Belfast Correspondent

ON THE eve of the annual conference of the Official Unionist Party, Mr. James Molyneux, MP, its leader, said a federation of the United Kingdom and Ireland would be an ideal long-term solution to the Northern Ireland stalemate.

Mr. Molyneux said: "If people faced the fact that the likelihood of a British withdrawal from the EEC is becoming more of a reality, then the Irish Republic might consider it appropriate to withdraw as well."

"In that situation, a united federated British Isles would make sense. Britain and Ireland are, and always have been, a geographic and economic unit, and federation would be the ideal long-term outcome."

Mr. Molyneux is not expected to present his ideas to today's conference as a serious policy option.

● The Irish Republic's Foreign Affairs Minister, Mr. Brian Lenihan, yesterday urged Britain to withdraw long-standing guarantees to the Ulster Unionists about the future of Northern Ireland. He said pledges that Ulster would remain part of the United Kingdom until the majority in the province decided otherwise should be replaced by an Anglo-Irish declaration worked out in negotiations between the two governments.

NEDC studies steel practices in Europe

BY ROY HODSON

GOVERNMENT thinking on the future level and form of assistance to the hard-pressed steel industry is expected to be influenced by an examination of the practices of other European Community countries.

The National Economic Development Office expects to complete the work within a month.

Early evidence supports suspicions by the steel unions that some continental steelmakers are getting greater help from their governments than is generally supposed.

Studies of transport costs have proved particularly revealing. The privately owned West German steel industry will be cited in the report as receiving big subsidies in an indirect fashion through West German federal assistance to the railways.

The British Steel Corporation, which has been losing £17m a

week since the strike started on January 2, is not expected to recover before 1981. Meanwhile, the Government is imposing a tight cash borrowing limit of £450m on the BSC for the coming financial year, out of which finance will have to be found for new plant, closures of old plant, redundancies, and working capital.

The profit margins of Britain's private sector steelmakers, who make 3.5m product tonnes a year, are also coming under heavy pressures. Redundancies are likely in the private sector, and the Government will want to consider what assistance, if any, it should give.

The unions are expected to use the NEDC report to exact new pressure for a complete re-think about the scale and form of assistance to both the private and public sectors of British steelmaking.

East Midlands warning

NO EAST Midlands engineering company will escape unscathed unless the steel strike is settled soon, said Mr. Dennis Ashton, president of the East Midlands Engineering Employers' Association.

He told the association's annual meeting that there had

been "a complete cessation of British Steel Corporation supplies to many of us since before Christmas."

Mr. Ashton said many saw the steel dispute as a crucial test of the Government's economic policies.

BBC in row over records

CLAIMS BY the BBC that its recently-announced cuts in needle time—playing of recorded music—on Radio 1 are due to new restrictions by Phonographic Performance have been denied by the company.

Mr. Bert Gilbert, general manager of Phonographic Performance, said the cuts were due solely to "abuse" of the levels of needle time agreed from April 1, 1978.

The arrangement allows up to 19 hours of review time for playing records that are new releases.

There is no charge to the BBC for playing records in this category, though this may be changed when the arrangement comes up for re-negotiation on April 1, 1981.

Behind the 15th largest bank in the United States stands the largest multistate bank holding company in America.

Western Bancorporation
CONSOLIDATED BALANCE SHEET
(in thousands)

	December 31, 1979	December 31, 1978
ASSETS		
Cash and due from banks	\$ 4,151,915	\$ 3,469,764
Time deposits, due from banks	998,942	993,056
Investment securities	4,347,080	3,796,046
Trading account securities	27,306	271,346
Funds sold	979,938	783,707
Loans	17,353,357	15,257,544
Less: Unearned income	322,719	248,976
Allowance for loan losses	216,814	165,976
Net loans	16,813,824	14,842,592
Lease financing	496,243	302,079
Bank premises and equipment	496,457	452,030
Customers' liability on acceptances	865,603	613,366
Other assets	539,826	432,628
Total assets	\$29,687,134	\$25,956,614
LIABILITIES		
Deposits:		
Demand	\$ 8,760,302	\$ 7,902,540
Savings	4,353,055	4,518,357
Other time	8,486,564	6,592,033
Foreign offices	2,034,152	2,149,248
Total deposits	23,634,073	21,162,178
Short term borrowings	2,737,542	2,030,374
Acceptances outstanding	865,941	613,578
Other liabilities	668,459	616,356
Notes, debentures and mortgages	562,158	460,888
Total liabilities	28,465,173	24,883,371
CAPITAL		
Stockholders' equity	1,221,961	1,073,243
Total liabilities and stockholders' equity	\$29,687,134	\$25,956,614

Western Bancorporation, with its 21 banks and their 842 domestic offices, is the largest multistate bank holding company in America. WBC operates in 11 western states, a prime growth area. It achieved dramatic gains in 1979. Setting a new record for the fourth consecutive year, earnings were up 28.5% over 1978. The dividend was increased in June. For the fourth time in 27 months, to an annual rate of \$1.64 a share. Four affiliate banks—United California Bank, First National Bank of Oregon, First National Bank of Arizona and Pacific National Bank of Washington—operate 34 offices abroad.

United California Bank
CONSOLIDATED BALANCE SHEET
(in thousands)

	December 31, 1979	December 31, 1978
ASSETS		
Cash and due from banks	\$ 2,353,798	\$ 1,878,334
Time deposits, due from banks	532,499	570,695
Investment securities	1,601,566	1,301,827
Trading account securities	22,282	264,415
Funds sold	568,245	274,252
Loans	8,741,963	7,565,545
Less: Unearned income	99,860	61,392
Allowance for loan losses	124,978	86,756
Net loans	8,520,125	7,417,397
Lease financing	477,278	291,569
Bank premises and equipment	175,848	157,902
Customers' liability on acceptances	497,686	366,054
Other assets	347,754	257,745
Total assets	\$45,067,083	\$42,760,193
LIABILITIES		
Deposits:		
Demand	\$ 4,247,800	\$ 3,633,916
Savings	1,689,944	1,729,430
Other time	3,771,796	2,738,973
Foreign offices	1,965,387	2,073,892
Total deposits	11,674,927	10,176,211
Short term borrowings	1,661,926	1,498,261
Acceptances outstanding	498,025	366,266
Other liabilities	463,281	390,305
Notes, debentures and mortgages	244,597	194,457
Total liabilities	14,548,658	12,326,500
CAPITAL		
Stockholders' equity	519,025	454,693
Total liabilities and stockholders' equity	\$45,067,083	\$42,760,193

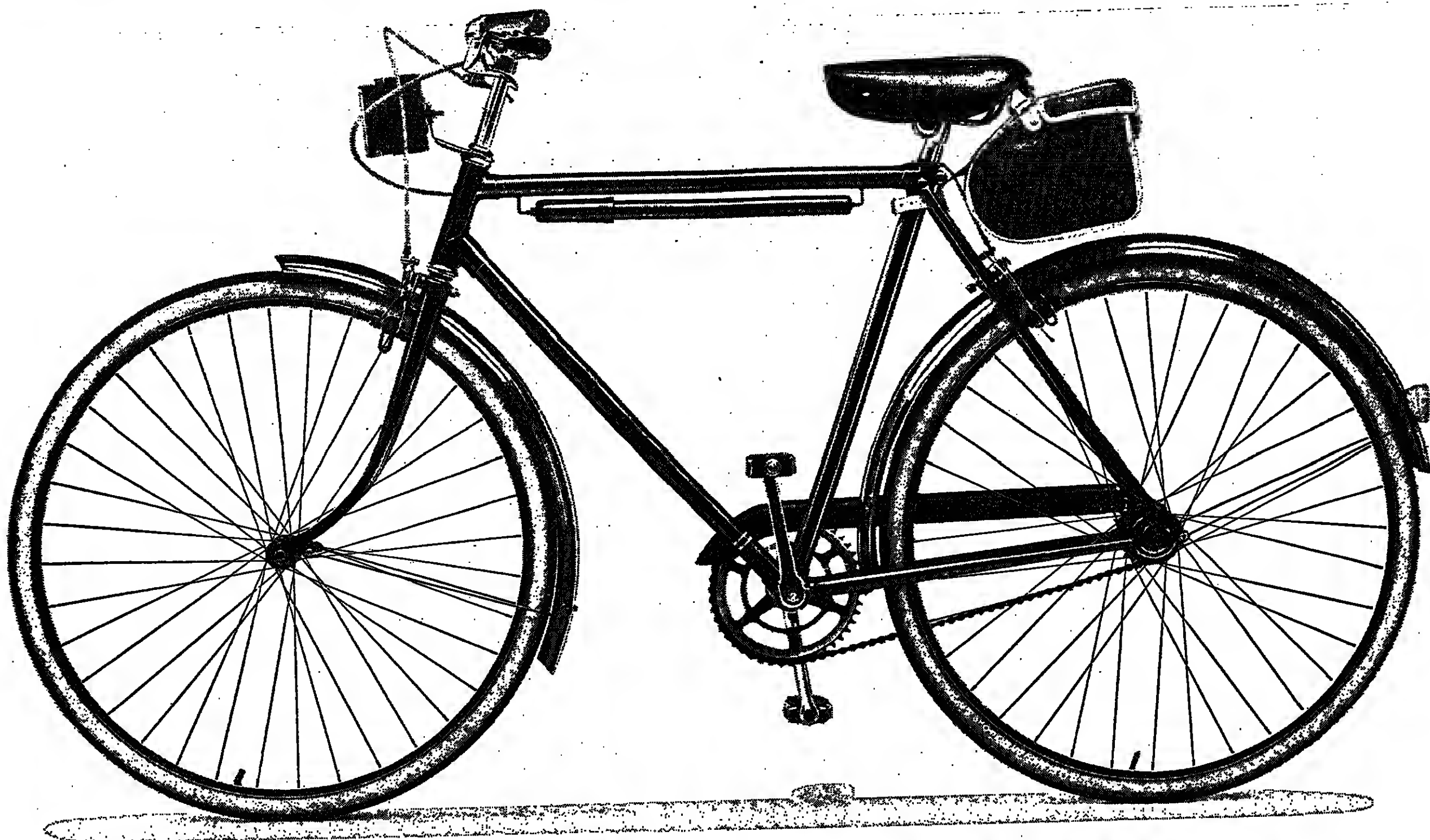
United California Bank is Western Bancorporation's largest affiliate and is the fifth largest bank in California, the 15th nationwide. UCB serves the international community in 20 locations abroad, including an Edge Act subsidiary in New York and branches in Hong Kong, London, Manila, Nassau, Singapore, Taipei and Tokyo. Its network of representative offices covers Canada, South America, continental Europe, the Middle East and the Pacific Basin. UCB is the only bank with offices in all three U.S. energy capitals—Los Angeles, Denver and Houston. It serves its national and multinational customers through its U.S. Banking and Special Industries Divisions and serves the California market through its statewide network of 302 branches.

For further information and/or copies of Western Bancorporation's 1979 annual and latest quarterly reports, write, phone, or telex. WESTERN BANCORPORATION: 707 Wilshire Boulevard, Los Angeles, California 90017, Telephone: (213) 614-3001 Telex: 674421 Cable: WESTBANCOR / UNITED CALIFORNIA BANK: 36-39 Essex Street, London, WC2R 3AS, England, Telephone: (01) 220-0377 Telex: 24798 Cable: UCALBANK

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All these securities having been sold, this announcement appears as a matter of record only.

NEW ISSUE

February 29, 1980

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UK NEWS

Lloyd's action for £5.9m to resume

BY JOHN MOORE

MEMBERS OF the troubled Lloyd's of London underwriting syndicate once headed by Mr. Frederick Sasse are resuming their legal action against the Institute of Reinsurers do Brasil, the Brazilian reinsurer group, to recover \$13m (£5.9m) in reinsurance claims.

If they are successful the amounts recovered could offset a part of the total losses of £20.2m the syndicate is facing from North American fire insurance business, computer leasing insurance claims, and insurance arranged for the entertainment and leisure industry.

Additional Underwriting Agencies (No. 2), the Lloyd's company which is looking after the affairs of the syndicate, has told the 110 members that lawyers Asbust Morris and Crisp have been requested to pursue the action against the Brazilians.

Asbust Morris had been acting for the syndicate in its action against the Brazilian Reinsurance Institute, started at the beginning of 1978, until last November. Asbust withdrew as solicitors at that time pending the receipt of proper instructions from all members of the syndicate.

The action against the Bra-

zilians, which seeks to recover claims on U.S. fire reinsurance on business produced for the Sasse syndicate by a company called Den-Har Underwriters of the U.S., then came to a halt.

So far the Brazilians have offered \$3m (£1.38m) to the syndicate "in full and final settlement of claims."

The resumption of the action against the Brazilians adds to the already tangled legal affairs of the syndicate.

Because of present legal action against Lloyd's by the syndicate, Lloyd's last week decided to suspend internal proceedings against Mr. Sasse, Mr. John Scott and Mr. Thomas Turbuhull, three directors of a former managing company of the syndicate, Sasse, Turbuhull, and Mr. John Newman, a broker at Brentnall Beard (International).

Lloyd's and a number of underwriting agents, including Sasse, Turbuhull, are being sued by 35 members of the syndicate in one action and another eight members of the syndicate in a separate action.

Sasse, Turbuhull has begun third party proceedings against Lloyd's and Brentnall Beard International and Brentnall Beard Limited, the Lloyd's brokers.

Post Office under fire from users

By John Lloyd

THREE BUSINESS pressure groups have criticised the Post Office for presenting inadequately detailed accounts, and called for fuller reporting.

To a joint submission to the select committee on Industry and Trade, the Mail Users Association, the Telephone Users Association and the Association of Telecommunications Users say: "The Post Office needs to be pressed to produce information which is easier to understand and which gives a more comprehensive guide to performance and plans than that currently available."

The groups recommend:

- Publication of a range of targets to indicate the value for money provided by main services.
- Separation of money spent on replacing telecommunications equipment from that spent on new equipment.
- Issuing of performance statements by regions, head offices and telephone area offices.
- Publication of details of the corporation's one-year, medium-term and long-term plans.
- Presentation of accounts to allow easy comparison between service and productivity trends.

Banker delayed

THE MARCH issue of The Banker has been delayed by an industrial dispute at the printers.

Four groups face fair trade probe

BY DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

AT LEAST four major companies face investigation by the Office of Fair Trading when the Competition Bill becomes law next month.

The four companies, first batch of at least 10 to be investigated by the OFT in a full year, are unlikely to be named for several weeks because of the legal requirement for enabling orders to be published before investigations are formally launched.

The OFT is completing arrangements as to which companies will be probed. Since the New Year it has evaluated information about anti-competitive practices by single companies.

The two most likely areas for investigation are parts of the car industry, such as component distributors or delivery companies, and alleged refusal of some manufacturers to supply cut price retailers. Some other areas are being studied.

Under the Competition Bill, expected to become law on April 2, the OFT will make a short investigation into any "anti-competitive" practice by an individual company. It can then refer company and alleged practice to the Monopolies and Mergers Commission for fuller investigation, likely to last six to nine months.

The commission decides if the practice is against the public interest, and if so what action to take to remedy the practice. The Trade Secretary can force companies to comply with these

recommendations. The basic criteria likely to be used by the OFT in selecting companies for initial investigation is whether the anti-competitive practice could frustrate competition either from existing or potential competitors; and in subsidiary markets as well as the company's main market.

For example an equipment manufacturer might force customers to accept a maintenance contract as part of a sale agreement.

Other areas likely to be probed include pricing policies designed to force competitors out of the market or make it difficult for new companies to set up.

Such practices as rental-only contracts, where trade in a commodity is restricted to rental or lease terms only, are also of interest to the OFT. Manufacturers are probably to supply retailers is probably its main area of concern at the moment. Both Tesco and Argos store groups have supplied details of manufacturers which they claim have refused to supply them because of their price-cutting. The Monopolies Commission ruled in 1970 that refusal to supply was not in itself always against the public interest.

Call for consumers' bill of rights

BY GARETH GRUFFITHS

A CALL for a consumers' bill of rights to cover the public sector was made at the weekend by the National Consumer Council. Its proposals would entail provisions for greater consultation, more information and a judicial system of safeguards.

Mr. Jeremy Mitchell, the council's director, told the annual conference of the Market Research Society in Brighton, that consumers felt insignificant, and powerless against the "immovable power" of public services.

A bill of rights would put the public services on their toes and ensure a better deal for consumers.

The Government should extend the obligation of local authorities to publish information about their services and agencies to other public bodies.

The water authorities, the National Health Service and the nationalised industries should ensure that information about their aims, funding and services was freely available.

Formal political accountability to the electorate did not ensure efficiency or equity and redress for people who suffered loss through unsatisfactory or faulty provision was often grossly inadequate. Mr. Mitchell argues that the absence of adequate redress reduced the incentive to maintain a high level of service.

SPAIN		Mar. 21	
		Price	
High	1979	Low	
310	200	Banco Bilbao	222
353	204	Banco Central	243
232	199	Banco Exterior	206
286	200	Banco Hispano	242
174	130	Banco Ind. Cat.	217
213	154	Banco Mediolan	204
308	203	Banco Santander	254
280	197	Banco Urquijo	163
285	202	Banco Vizcaya	128
281	195	Banco Zurgas	207
232	190	Burgos	100
99	58	Espanola Zinc	61
78	23.5	Gas. Prudential	57.2
77.5	52.75	Hidroila	65.9
78	52	Iberdrola	68.5
178	100.5	Peñoles	105.5
136	59	Perforador	59
130	107	Sogefisa	107
115	53	Teléfonos	54.2
69.7	55	Union Elec.	63.5

Sombre mood at Conservatives' mid-term conference

BY ELINOR GOODMAN

MRS. THATCHER received her regulation standing ovation from Conservative voluntary workers assembled in Bournemouth at the weekend for the party's mid-term conference. But, compared with the carefully orchestrated love-in last October at Blackpool, it was a very restrained affair, appropriate to the sombre mood of the conference.

The atmosphere inside Bournemouth's Pavilion was

heavy with responsibility. If the activists gathered there represented the only political restraint within the Conservative Party on what Sir Geoffrey Howe could do in his Budget this week, the Chancellor would seem free to load out any amount of party medicine as long as he kept to the broad lines of the prescription laid down last May and did not entirely forget the need to present the party as a compassionate one. Certainly, nobody there seemed to be expecting much good news on Wednesday.

Stoicism seemed to prevail. Members of the audience dismissed the party's squeak home in the South-east by-election as largely predictable and merely demonstrating the lack of "backbone" among some sections of the electorate.

Private, some of the party's more senior organisers admitted being unhappy about some aspects of the Government's policy—particularly inflation, though, interestingly, they did not seem as worried about the mortgage rates as they had been. But the message from the ordinary party worker in Bournemouth was that there should be no "U-turn" and that the Government should not dilly-dally any longer in implementing its manifesto commitments.

Speakers were far more critical of the Conservative front bench than either in the post-electoral glow of the Blackpool conference or in the pre-election fervour which surrounded last March's meeting of the central council. But the criticism was almost entirely directed at the Government inability to communicate its policies properly—a form of criticism which is apparently regarded as "constructive" and therefore acceptable, and which is always launched when the party is in Government.

Parliament business this week

TODAY

COMMONS—Transport Bill, remaining stages. Motions on Mineworkers Pension Scheme. Redundant Mineworkers' Concessional Coal Payments Scheme. Motion on EEC document on convergence and budgetary questions.

LORDS—Education Bill, report. Consular Fees Bill, second reading.

SELECT COMMITTEES—Home Affairs. Subject: Deaths in police custody. Witnesses: Mr. Michael Meacher MP, Association of Police Surgeons. 4.30 pm. Room 8. Public Accounts. Subject: Meat industry employment schemes. Northern Ireland Housing Executive rent and heating arrears. Witnesses: Northern Ireland Department of Agriculture and Northern Ireland Department of Environment. 4.45 pm. Room 16.

TOMORROW—Transport Bill, remaining stages. National Heritage Bill, consideration of Lords amendments. Motion on HMSO Trading Fund Order.

LORDS—Education Bill, report. Highlands and Islands Air Services Bill, second reading and committee.

SELECT COMMITTEES—Transport. Subject: European Commission's Green Paper on transport infrastructure. Witnesses: Department of Transport. 4 pm. Room 6.

WEDNESDAY—Commons. Budget statement. At 7 pm, opposed private business. EEC document on protection of workers from harmful substances.

SELECT COMMITTEES—Foreign Affairs. Subject: Consequences of Soviet expansion for British foreign policy. Witnesses: Foreign Office, Mr. F. Singleton. 10.30 pm. Room 15.

THURSDAY—Commons. Budget debate.

FRIDAY—Commons. Private members' motions.

WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The Board meetings are mainly for the purpose of considering dividends and other indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last year's timetable.

TODAY		TODAY	
COMPANY MEETINGS		Goode Durrant and Murray, Durrant	10.00
Derby Trust, The Portland Hotel, Portland	10.00	Kennedy Motor, Motor Offices, Old Road	10.00
Oxley Investment Ltd., 117, 117, 117	10.00	Kitchen (Robert) Taylor, The Connaught	10.00
Temple Bar Investments, 101, 101, 101	10.00	Moogda Trust, 44, Bloomsbury Square	10.00
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Goode Durrant and Murray, Durrant	10.00	Goode Durrant and Murray, Durrant	10.00
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Real pay in rich nations comparable

By Our Labour Staff
STEELWORKERS in the advanced industrialised countries have to work about the same number of hours to earn enough to buy roughly the same amount of food, clothing and durable goods, according to new statistics produced by the International Metalworkers' Federation.

Using figures expressing the comparative purchasing power of net earnings in different countries, the federation says that metalworkers in the United States have earnings that provide most purchasing power, followed by those in Australia, Sweden and Denmark.

The West German car-worker has to work three times as many hours to earn enough to buy the same amount of food as his American counterpart, according to the statistics. A Japanese car-worker has to work six times as long.

The statistics, however, do not take into account such items as holidays, working or housing conditions and other aspects which make up the quality of life.

The International Metalworkers' Federation says the difference in purchasing power for workers in manufacturing is particularly marked between the West and the Far East. This, it says, points to the level of exploitation in under-developed and developing countries.

Clearer definition of immunity urged

BY NICK GARNETT, LABOUR STAFF

THE Engineering Employers Federation has asked the Government for a more precise definition of when immunity from civil proceedings will continue, under new legislation, for secondary industrial action involving first suppliers and customers.

The Government's proposals, which the federation says do not go far enough, are contained in a consultative document on secondary action. Interested parties had to submit their views on them by last week. The document and submissions will form the basis of a separate clause in the Employment Bill, now going through Parliament.

The working paper proposes to extend immunity for breach

of interference with a commercial contract, to action taken by employees of first suppliers or customers of the employer in dispute who were not themselves party to the dispute but who regularly conduct a substantial part of their business with that party.

The federation says this proposal would breed considerable uncertainty. It proposes that immunity for breach of commercial contract should only be available in two instances.

These are:
● "Where the first supplier or customer was actually continuing to supply goods to, or take goods from, the employer subject to the primary dispute on a substantial scale during the course of the latter's dispute."

● "Where the secondary action at the first supplier or customer was taken with the objective of directly affecting the continued operation of the employer subject to the primary dispute and was capable of achieving this effect."

The federation says this wording would mean that the industrial action would be immune only where the continuing supply of goods from or to the first supplier or customer is clearly a significant factor in enabling the primary employer to withstand the industrial action.

It would also mean that secondary action would not be immune if the primary industrial action had been effective in shutting down the primary employer. In this case, second-

dary action by employees of the first supplier or customer would be unnecessary and gratuitous and would not be immune.

The federation submits that within the scope and timetable of the debate on the proposals, making all secondary action unlawful is not warranted.

It says however that the Government's proposed Green Paper on trade union immunities should aim to encourage debate on the question of whether in a modern industrial society it is reasonable that there should be legal immunity for any secondary industrial action, and shall expressly examine what would be the result of withdrawing that immunity and how it might best be achieved.

'Wreckers' threaten the NHS

The National Health Service was under threat from the "dogmatic wreckers" in Government, Mr. Norman Willis, TUC deputy general secretary told a union conference on the health service at the weekend.

He told delegates from the Association of Scientific, Technical and Managerial Staffs that measures so far introduced "have the singular characteristic of attacking the real progress achieved in our society since the war."

Cuts in public expenditure were reducing living standards and the tax changes being made did not benefit the lowly-paid and the vast majority of workers.

"It is a sobering thought," said Mr. Willis, "that, at the same time as the Government is obliging health authorities nationwide to chop £125m off the present inadequate level of provision for the NHS, it is handing company directors on £50,000 a year a nice 50 per cent overnight pay rise."

Opposing cutbacks in the health service or fighting to protect child benefits or retirement pension was not being "wet," Mr. Willis said.

He called for a reversal of planned Government cuts.

Liverpool dockers want national strike

BY OUR LABOUR STAFF

A NATIONAL dock strike was called for yesterday by a mass meeting of dockers at the port of Liverpool, which has been brought to a standstill by a strike over the handling of steel.

Dockers' shop stewards from Hull and Southampton were at the meeting, and a mass meeting of dock workers at Southampton is expected to be called today to discuss the strike call.

Mr. Jimmy Symes, docks district secretary of the Transport and General Workers Union, is now attempting to arrange a meeting of the national docks delegates conference, with a further mass meeting at Liverpool scheduled for Wednesday.

Representatives of the Liverpool dockers are also expected to see officials of the TGWU in London today, over the union's policy towards blacking all steel movements in and out of the docks.

More than 5,000 dockers and 2,000 ancillary workers at Liverpool went on strike on Friday over the suspension from work of 100 dock workers who refused to complete loading steel onto a Soviet ship.

The dockers had been suspended on Thursday without pay, in accordance with a warning this year that any refusal to handle materials in support of

an outside dispute would be at the dockers' own expense. Yesterday's mass meeting, which involved a majority of the dockers together with representatives from the port's ancillary workers, did not vote on the strike.

The Liverpool Port Employers Association said the outcome of the meeting was very disappointing.

Mr. James Fitzpatrick, managing director and chief executive of the Mersey Docks and Harbour Company, warned yesterday of possible international repercussions of the dispute, after flying back to Britain on Thursday from a trade-seeking mission to China and India.

He said the Chinese relied heavily on Britain for steel and had come to regard Liverpool as one of the UK's two most important ports. Cargoes between Liverpool and the People's Republic had doubled in the past 12 months.

Mr. Fitzpatrick added: "The Chinese will be watching this situation very carefully. It will help neither Britain's export trade nor the Port of Liverpool, and shipowners serving the sub-continent of India are conscious of the need for reliability from the ports they use. This strike could only make them look twice at using Liverpool."

Summer target for bank union

BY NICK GARNETT, LABOUR STAFF

THE UNION now being formed out of the three staff associations operating in the English clearing banks should be formally set up by late summer, according to the timetable now laid down by the staff bodies.

The management committees of staff associations at Barclays, National Westminster and Lloyds have, so far, given full support to the formation of the proposed Clearing Bank Union.

Executives of the three staff

associations are to meet separately towards the end of April to approve a resolution that the proposal to form a new union should be put to ballot. If that is accepted the ballot would have to go ahead before the end of May with the result known by early June.

Providing the staff associations' membership accepted the instruments of amalgamation, the new union would then be technically in existence within six weeks.

Discussions are still in progress with the Certification Officer and staff association officials are awaiting the first draft of the instruments of amalgamation.

The staff associations and finance union have separate meetings with the Federation of Bank Employers this week following the banks' refusal last week to improve their 17 per cent pay offer.

Railwaymen halt tube services

UNDERGROUND TRAIN services in London came to an early stop at some stations at the weekend after railwaymen walked out in protest at attacks on staff.

There were no trains on the Metropolitan, Circle and Jubilee lines. Trains on the Bakerloo lines were restricted during the action after 10 pm on Friday and Saturday nights.

London Transport said it sympathised with the men.

INSURANCE

Why satellite cover is still worthwhile

BY OUR INSURANCE CORRESPONDENT

THERE ARE fools, damned fools, and underwriters" was the comment I heard this week, provoked by the news that the world aviation insurance market is likely to have to pay out \$77m for RCA's Satcom 3 satellite, which went missing in December only a short time after its launch.

Even to the well-informed or worldly-wise layman it must seem astonishing that the market is ready to insure a piece of hardware designed to be fired into space without possibility of return.

"Being on a hiding to nothing" is a phrase that might seem most apt even to brokers and underwriters not involved in aviation business, but in fact in recent years aviation underwriters have made a fair-sized "book" of satellite insurance. Cover has been given on about 50 launched for non-military, commercial purposes.

The essential point is that a satellite, though irretrievable, is put up in space to do a specific job or jobs for a pre-determined period. If it fails in part, or absolutely, and the project is to be continued, a replacement must be built and launched.

Viewed from this angle a satellite is no different from any other piece of purpose-built machinery. The fact that it cannot be brought back to earth for repair does not affect its operational value while it works satisfactorily, but increases the risk of a total loss before the predetermined date when its useful life ends.

There is no argument that while it is on the ground in the construction, pre-launch stage, a satellite is as insurable as any earthbound piece of equipment, and this is the starting point for much of the cover that has been written. Cover is all risks subject to specified exclusions, at the in-transit, in-store, and pre-launch stages.

When pre-ignition cover ends, launch-failure insurance begins, and continues until the satellite is "on station."

This insurance pays for the cost of a replacement launch, usually by totalling the replacement costs of the launch and the satellite.

Provided the satellite is properly set into orbit the "life insurance" cover comes into operation. The insurance can be related to replacement costs on the same lines as the launch-failure cover, or it can be based on likely loss of revenue. This life cover is usually written for a three-year period, but since many satellites are designed to work for longer periods extensions of cover may be needed.

Information is that RCA's claim is roughly two-thirds for launch failure and loss of the satellite and a third for loss of revenue. The loss of Satcom 3 seems unlikely to deter the market from providing cover on established lines for future satellites, but must affect insurers' views of the premium required.

Aviation insurers are already thinking about the next space development, the space shuttle, where the craft will be designed to return regularly to ground once its particular space mission is complete.

A short but informative article on non-insurance aspects of the space shuttle by James T. Rogers appears in this month's Across the Board, a magazine published by The Conference Board of New York.

An 11-page chapter on satellite insurance is included in a Butterworth publication, Aviation Insurance, by R. D. Margo. My guess is that by the time a second edition is published these 11 pages will necessarily have been considerably expanded.

Public Works Loan Board rates

Effective from March 22

Years	Quota loans repaid at maturity			Non-quota loans A* repaid at maturity		
	by EPT	A† maturity	A† maturity	by EPT	A† maturity	A† maturity
Up to 5	15½	15½	15½	16½	16½	16
Over 5, up to 10	15½	15½	15½	15½	15½	15½
Over 10, up to 15	15½	15½	15	15½	15½	15½
Over 15, up to 25	15	14½	14½	15½	15½	15½
Over 25	14½	14½	14½	15½	15½	15½

* Non-quota loans B are 1 per cent higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Repayment by half-yearly annuity (fixed equal half-yearly payments to include principal and interest). § With half-yearly payments of interest only.



WE, THE LIMBLESS, LOOK TO YOU FOR HELP

We come from both world wars. We come from Kenya, Malaya, Aden, Cyprus... and from Ulster. From keeping the peace no less than from war we limbless look to you for help.

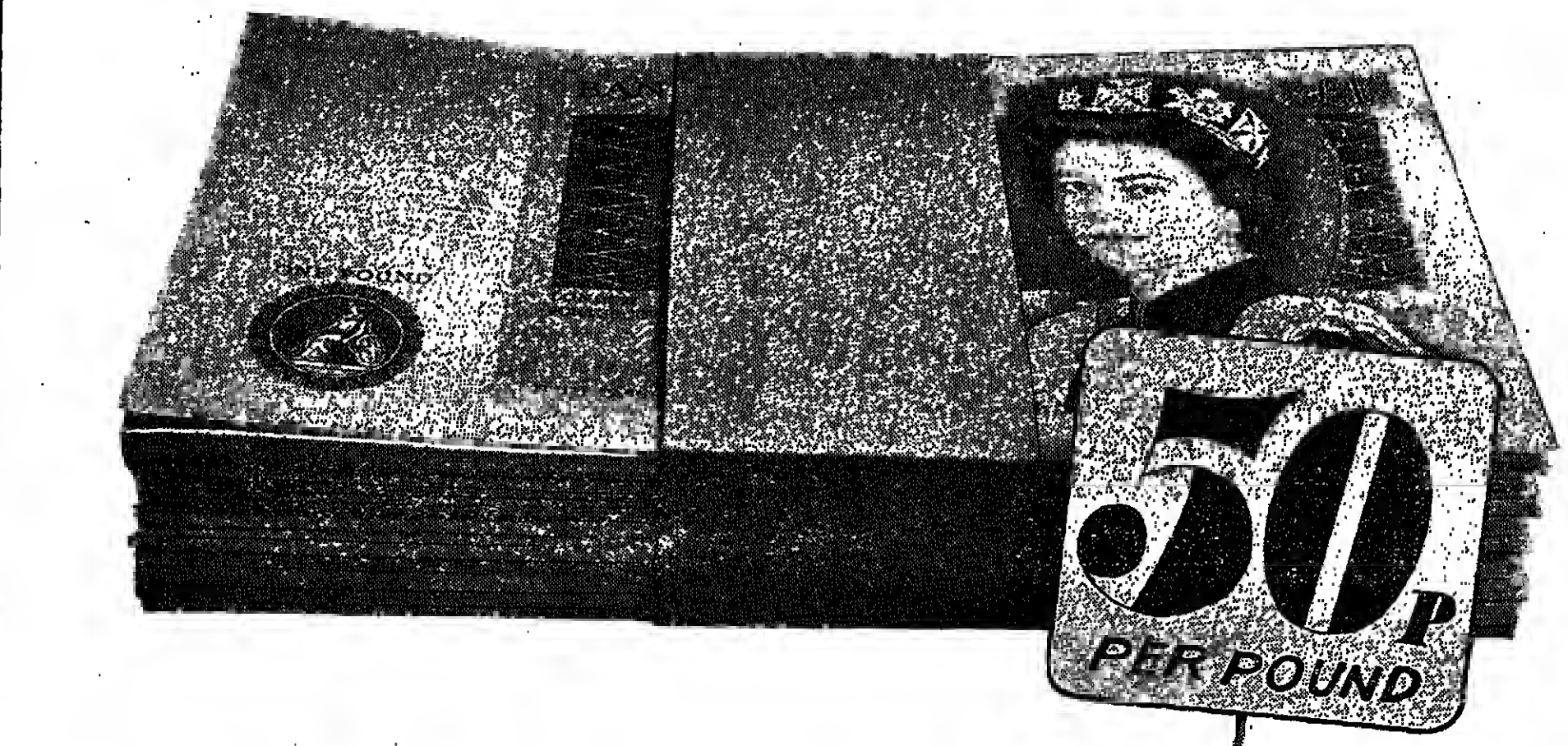
And you can help, by helping our Association, BLESMA (the British Limbless Ex-Service Men's Association) look after the limbless from all the Services. It helps, with advice and encouragement, to overcome the shock of losing arms, or legs or an eye. It sees that red-tape does not stand in the way of the right entitlement to pension. And, for severely handicapped and the elderly, it provides Residential Homes where they can live in peace and dignity.

Help BLESMA, please. We need money desperately. And, we promise you, not a penny of it will be wasted.

Donations and information: Major The Earl of Ancaster, K.C.V.O., T.D., Midland Bank Limited, 60 West Smithfield, London EC2A 3DX.

British Limbless Ex-Service Men's Association

"GIVE TO THOSE WHO GAVE - PLEASE"



NRDC can provide half the finance for developing and marketing new technology

There's always an element of risk in developing and marketing new technology. And the bigger the risk, the more difficult it is to obtain finance.

The National Research Development Corporation is ready to help in such cases.

We provide finance for the development and launching of products and processes based on new technology.

NRDC finance is available to companies of all sizes, including subsidiaries, and we'll consider any project which contains a genuine technical innovation.

Through our joint venture finance we can contribute half the cash flow required and carry half the risk. The company does not have to pay anything back until the project starts generating sales. And in the event of

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For further information and a copy of our brochure,

please contact Brian Mann at the National Research Development Corporation, Kingsgate House, 66-74 Victoria Street, London SW1E 6SL.

Or telephone 01-828 3400.

NRDC
Finance for innovation

APPOINTMENTS

Audio-visual post at Thorn EMI

Mr. John Sibley, THORN EMI director of administration and company secretary, has been appointed to co-ordinate the development of the company's audio-visual interests. He takes over direct management responsibility for the existing audio-visual operation. Mr. Sibley joined Thorn Electrical Industries in 1972. He became company secretary in 1972, was appointed a member of the Thorn Executive Board in 1973 and made to the Board of directors in 1974.

Mr. Michael Checkland, the BBC's controller of planning and resources, has been appointed a director of VISNEWS from April 1. He replaces Mr. Alasdair Milne as one of the BBC's three representatives on the company's Board. Mr. Milne, who is managing director, Television, BBC, has been a director of Visnews since July, 1973.

Mr. Ernest Smith has been elected president of the BUILDERS BENEVOLENT INSTITUTION for 1980-81.

The Secretary for Employment

has appointed Mr. Maurice Westbrook to the Board of REMPLY as an executive director. He succeeds Mr. Peter Williams as director responsible for the furniture group.

Mr. R. C. Smith has been appointed deputy chairman of the STANDARD LIFE ASSURANCE COMPANY following the resignation of Mr. B. D. Missetbrook, who continues as a director.

The FIRST UNION NATIONAL BANK OF NORTH CAROLINA has appointed Mr. John S. K. Oram as its UK representative in succession to Mr. Kenneth A. Wagg who is retiring. The representative office is now at 22, South Audley Street, London, W1. Telephone: 493 8222.

Mr. Mark H. Dixon and Mr. Jonathan Sparke have been appointed to the Board of CORAL INDEK, a division of the Coral Leisure Group.

Mr. M. Tehbati, company secretary of GEORGE OLIVER (FOOTWEAR), has been appointed a director. Mr. D. J. Reynolds Associates as an executive director. He was

formerly vice president of engineering and manufacturing in Sea Containers Inc.

Mr. John Harrison has been elected president of the NATIONAL ASSOCIATION OF SCOTCH WOOLLEN MANUFACTURERS in place of Mr. J. Martin Lane.

Mr. M. A. Clark is to become managing director of R. C. WALMSLEY on April 1. He will succeed Mr. Reg Walmsley who retires from that position but will continue as a director and will work in a part-time advisory capacity. The parent concern is Associated British Foods.

Mr. Roger Beard has been appointed sales director of FIELDING AND PLATT, a member of the Redman Heenan International group.

Mr. T. D. R. Harrison has been appointed sales director of FORMWOOD, a member of the Mallinson-Denny Group.

Mr. Robert Hinton has joined the London office of RUSSELL REYNOLDS ASSOCIATES as an executive director. He was

formerly vice president of engineering and manufacturing in Sea Containers Inc.

Mr. Geoff Rodgers has been appointed managing director of UPJOHN LIMITED, UK, succeeding Mr. J. A. Smith, who continues as chairman. Mr. Smith has become general manager, business development—Europe, for the international division.

Mr. John Clements has become managing director of NATIONAL ADVANCED SYSTEMS (UK).

The Secretary for Energy has re-appointed Mr. Charles Lovell as a part-time member of the SOUTH EASTERN ELECTRICITY BOARD for three years.

Mr. R. B. Pangbourne has been appointed joint managing director of CORNELL DRESSES.

The contract to build and install what is claimed to be the fastest milk bottling plant in the UK has been awarded to TECHNIPACK ENGINEERING, Walsall. Worth almost £1m, the customer is Unigate Dairies and the 1,000 bottles/minute line will be installed at Liverpool. Installation will begin in November and the plant will be operational early in 1981.

Home and export orders for electronic communications equipment worth £750,000 have been won by STANDARD TELEPHONES AND CABLES' electronics division, Newport, Gwent. The Post Office has ordered audio circuit network amplifiers, signalling unit racks and test equipment for more than £500,000. STC will also make data modems for an associated company, Standard Radio and Telefax of Stockholm. The order is worth £250,000 and is for equipment to connect low-speed data devices—such as teletype writers—to computer systems over the telephone network.

A £120,000 contract has been won by ALTON ENGINEERING, Ripon, for the refurbishment of two pre-driers which are used for the drying of quarry limestone. The order is worth £120,000 and is for equipment to connect low-speed data devices—such as teletype writers—to computer systems over the telephone network.

BICC VANTRUNK has an order worth over £100,000 placed by Brown and Root Wimpey/Highland Fabricators on behalf of BNOG Developments for the supply of cable support equipment to be installed in the Nigg Bay Oil Terminal.

Securcor has placed an order worth £300,000 with INTERNATIONAL COMPUTERS for 23



Mr. John Sibley

ICL 7500 series terminal processors with remote printers and 37 associated visual display units.

GRIEVESON, GRANT AND CO., stockbrokers, states that Mr. F. R. H. Spencer will be retiring from the partnership today, Mr. O. P. Dawney and Mr. A. A. Robertson will be retiring on April 11 and will remain associated with the firm as consultants.

Mr. Clayton A. Sweeney has been appointed a director of WILKINSON MATCH. He has been Mr. R. J. Buckley's alternate director on the Board of Wilkinson Match during the past year and is also a director and a senior vice-president of Allegheny Ludlum Industries Inc.

Mr. Tony Holliday (Tootal Menswear) has been elected chairman of the SHIRT MANUFACTURERS' FEDERATION, with Mr. Peter Barden (Tern-Consulate) as senior vice-chairman and Mr. David Buck (Edward R. Buck and Sons) as honorary treasurer.

Mr. Edmund R. Raczewski has been appointed managing director of GSPK (SALES), Knaresborough, (member of the GSPK Group), marketing decorative scented oil lamps and a range of oils and accessories.

Mr. David G. Thomas has become a director of JOHN WILLIAMS STEEL SERVICE, Cardiff, with overall responsibility for sales.

Mr. Philip W. A. Henderson will be leaving the partnership of HENDERSON CROSTH-WAITE stockbrokers on April 25 to join DALGETY. Mr. David P. Lang will be joining the partnership on April 28.

BUSINESSMAN'S DIARY

UK TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Mar. 25-28	London Fashion Exhibition (01-385 1200)	Olympia
Mar. 28-29	Viewdata '80 Exhibition (0895 39282)	Wembley Conference Centre
Mar. 29-30	Birmingham Motor Show (0602 51202)	Bingley Hall, Birmingham
Mar. 30-Apr. 1	British International Footwear Fair (01-437 6734)	NEC, Birmingham
Mar. 30-Apr. 2	GLASSEX '80 Glass and Technology Exhibition (01-353 4839)	NEC, Birmingham
Apr. 3-9	National Boys and Girls Exhibition (0532 620361)	Alexandra Palace
Apr. 9-10	Educational Equipment Exhibition (01-247 9328)	Harrogate
Apr. 15-19	Ideal Home Exhibition (0777 312550)	City Hall, Hull
Apr. 17-20	Tipping (vehicles) Convention and Exhibition (01-367 9711)	Harrogate
Apr. 19-21	Optifair '80 (01-405 3101)	Earls Court
Apr. 21-25	International Fire, Security and Safety Exhibition—IFSSSEC (01-388 7661)	Olympia
Apr. 23-May 2	International Machine Tool Exhibition—MACH '80 (01-402 6871)	NEC, Birmingham
Apr. 28	International Food and Wine Exhibition (06284) 2442	Exhibition Centre, Leeds
Apr. 28-May 1	Audio Visual Exhibition (01-683 7788)	Wembley Conference Centre
May 2-6	Spring Motor Cycle Show (04566 74987)	Bingley Halls, Birmingham
May 2-6	Boat Show (0272 657789)	Exhibition Centre, Bristol
May 3-5	National Collectors Exhibition (01-629 4917)	Kenington Town Hall

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Current	Spring Fair (01-435 8200) (until March 31)	Dubai
Mar. 27-Mar. 31	Machine Tool Exhibition—METAV (01-409 0956)	Dusseldorf
Mar. 27-Apr. 5	British Aviation Equipment Exhib. (01-215 7877)	Shanghai
Apr. 7-10	Wool Textile Fair (0623 446611)	Zurich
Apr. 13-15	MODEXPO '80: International Ladies Fashion Fair	Paris
Apr. 15-19	Transport-Expo '80 (01-486 1951)	Hanover
Apr. 16-24	Hanover Fair (01-651 2181)	Nice
Apr. 21-25	World Tobacco Exhibition (0737 69611)	Brussels
Apr. 21-28	Scientific and Measurement Apparatus Exhibition (INSTRUMA) (01-235 5422)	Bologna
Apr. 24-28	Perfumery and Cosmetics Exhibition—COSMOPROF	Munich
Apr. 28-May 2	Biochemical and Instrumental Analysis Exhibition (ANALYTICA) (01-486 1951)	Brussels
May 6-8	Compo Europe Exhibition (01-261 8000)	Copenhagen
May 7-11	Scandinavian Furniture Show (01-540 1101)	Cologne
May 10-13	International Trade Fair for Optometry—OPTICA (01-409 0956)	

BUSINESS AND MANAGEMENT CONFERENCES

Date	Conference	Venue
Mar. 24-25	FT Conference: Business Premises and Profitability (01-336 4382)	Hilton Hotel, W1
Mar. 24-25	Law and Business Inc: New Techniques in Acquisitions of U.S. Companies (01-267 4466)	Portman Hotel, W1
Mar. 24-28	Kapner-Tregoe: Decision Making for Senior Management (0628 39033)	Whately Hall Hotel, Banbury
Mar. 25	Institute of Directors annual convention: Prosperity or Poverty—the last chance for choice (01-339 1233)	Royal Albert Hall
Mar. 26	Hemley School for Forecasting: Costs and Price Forecasts to 1985 (01-383 9361)	London Press Centre
Mar. 26-27	Sally Templar-Charles Simeon: Control of Toxic Substances (01-955 1791)	Piccadilly Hotel, W1
Mar. 26-28	Frank Jeffkins School of Public Relations: Planned Press Relations (01-567 2911)	Connaught Rooms, WC2
Mar. 28	Oyez—IBC: Electrostatic Hazards in the Storage and Handling of Powders and Liquids—A Review (01-242 2481)	Hilton Hotel, W1
Apr. 1-3	FT Conference: The Future of Sugar (01-236 4382)	Grosvenor House, W1
Apr. 1	ES: Advances in Microprocessor Applications for Food Manufacturing (057-252 2711)	Cavendish Conference Centre, W1
Apr. 1-2	Flight International: Fuel Economy in the Airlines (01-643 8040)	Royal Aeronautical Society, W1
Apr. 10-11	Brunel University: Coping with Conflict and Management Change (0695 56461)	Uxbridge
Apr. 11	Oyez—IBC: Media Research and the Advertiser—The Unexploited Factor (01-242 2481)	Hilton Hotel, W1
Apr. 14	Oyez—IBC: Consumer Credit Act 1974: New Orders and Regulations (01-242 2481)	Hilton Hotel, W1
Apr. 15	IPS: Controlling Purchasing Costs in an Inflationary Climate (0990 23711)	London Press Centre
Apr. 16	CCC: Lending Residential Property for Profit (01-222 6362)	Hilton Hotel, W1
Apr. 16-17	Food Manufacturers' Federation 8th Annual Conference: Food for Growth (01-536 2480)	Grosvenor House, W1

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CHUJITSUYA CO., LTD.

TOKYO, JAPAN

5% DM Convertible Bearer Bonds of 1979/1987
Security Index Number 464 564
Adjustment of Conversion Price

The Board of Directors adopted the following resolution on October 1, 1979:

Free share distribution at a ratio of 10:1 to shareholders registered on February 28, 1980 (record date).

As a result of this capital increase the previous conversion price of Yen 1,301.30 for the convertible bonds was adjusted in accordance with the Terms of Issue. The conversion price effective from March 1, 1980, will be Yen 1,183—per share of Common Stock with a par value of Yen 50.—

On behalf of
Chujitsuya Co., Ltd.
Munich, March 1980 BAYERISCHE VEREINSBANK

Forced Auction No. 3
DLB "Sea-Troll"

Self propelled derrick Lay Barge "Sea-Troll," built 1976 Blohm and Voss, Hamburg, will be sold on compulsory auction in the Council House of Lyngdal, Norway, on April 28th, 1980 at 12 noon. 1800/1400 tons heavy lift "Clyde" rotating crane and pipe laying system for handling 60-ft. pipe lengths of diameter 8 to 60 inches. 5 16 cys Pielstick, b. 1976 each driving 4200 kw. generator. Double shaft, variable pitch propellers — 8 knots transit speed. May be seen in Rossfjord, Lyngdal, Norway. Further information:

Mr. Floestum. Tel: (045) 41888, Stavanger
Telex: 33316

Lyngdal District Court, Farsund, Norway

Financial Times Conferences

World Pulp and Paper Conference

Helsinki — April 28 and 29, 1980

At this fourth Pulp and Paper conference being arranged in co-operation with Helsingin Sanomat, a distinguished panel of speakers from the USA, Canada, Brazil, Europe and Nordic countries will examine the problems facing the industry in the 1980s and assess the outlook for the future.

World Electronics — Strategies for Success

Monte Carlo — May 5-7, 1980

The opening session will be devoted to the European electronics industry with papers by Dr. Friedrich Bauer, Executive Vice-President, Siemens AG, Mrs. M. Cantoni Bellisario, President, Olivetti Corporation and Dr. Robert Heikes, Vice-President International, National Semiconductor GmbH.

Financial Times conferences to be arranged in June will include the annual World Banking Conference to be held in Singapore on June 2 and 3, 1980 and a European Offshore Conference to be arranged in London on June 18 and 19, 1980.

All enquiries should be addressed to:

Financial Times Limited
Conference Organisation
Minster House, Arthur Street
London EC4R 9AX

Tel: 01-621 1355

Telex: 27347 FTCONF G

Cables: FINCONF LONDON

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GESTETNER HOLDINGS
LIMITED

Bearer shareholders should lodge Coupon 109 with Barclays Bank Limited (Securities Services Department), 54 Lombard Street, London EC4P 3AH, in respect of the final dividend declared on 17th January, 1980. Bearer dividend shareholders should lodge three clear days before 4th April for 11% dividend. Bearer capital shareholders should lodge (with allotment instructions) on or after 8th April for 0.25% dividend and new capital shares as follows:—

Based on the average price of	ord. cap.	"A" ord. cap.
For each share held holders will receive	74.323p	74.323p
	0.051513 of a share	0.051513 of a share
Fractions of new shares will be sold for the benefit of the Company.		

HYPOBANK
INTERNATIONAL S.A.

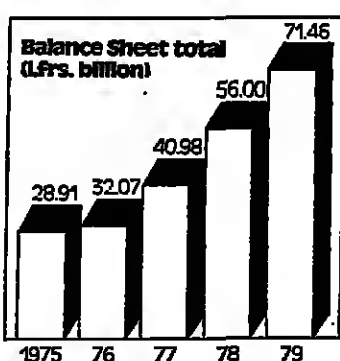
...continued success in 1979

HYPOBANK INTERNATIONAL S.A. has been active in the Euro market since 1972. In 1979, its eighth year of activity, the Bank continued its favorable development, increasing the Balance Sheet total by 28% to Lfrs. 715 billion (US \$ 246.4 billion).

Our position in the Eurocurrency market was further strengthened. The internationally diversified loan portfolio also grew, and continues to comprise more than half of our balance sheet. Our activity in securities and our client service facilities were further expanded. Following excellent results in previous years, net profit from operations in 1979 kept pace with increased business volume, while total net profit, which included substantial extraordinary income, increased by 41% to Lfrs. 283 million (US \$ 9.8 million).

To maintain an adequate relation to the growth of the Bank, our capital was increased in 1979 by Lfrs. 125 million to Lfrs. 1,215 billion. Shareholder's Equity, including provisions, amounted to Lfrs. 1,866 billion (US \$ 64 million) at year's end. It was proposed at the Annual General Meeting to distribute the profit of Lfrs. 283 million (US \$ 9.8 million) by paying a dividend of 12% and allocating Lfrs. 152.5 million (US \$ 5.26 million) to the free reserves. The shares are held by BAYERISCHE HYPOTHEKEN-UND WECHSEL-BANK AG, MUNICH.

For your copy of our Annual Report please contact us at:
37, boulevard du Prince Henri,
P.O. Box 453, Luxembourg, Tel: 4775-4,
Telex: 1570.



Highlights of the Balance Sheet for 1979

Assets	(Lfrs. million)
Balances with banks	46,070
Advances and Loans	20,720
Securities	3,204
Fixed assets and others	1,459
Liabilities	
Deposits & Current accounts	67,382
Others	1,932
Capital & Reserves	1,866
Net profit	283
	71,453

HYPOTHEKEN-UND WECHSEL-BANK AG
INTERNATIONAL S.A.
LUXEMBOURG

Picture the scene:

On the one hand, a man born, bred and hardened in the West Riding, running his own small chemical company.

On the other, a man born, bred and hardened in West Byfleet, running a large investment company somewhere in the City.

The only thing they have in common is money.

One needs it. The other has popped up from the City for the day to see if he can help.

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You'll see what we mean if you contact one of our offices dotted around the country.

Each one is run by a man who knows the area and the people like the back of his hand.

He will understand you and your problems so his advice will always be worth listening to.

More importantly, he may well be able to help you with long-term capital, anything from £5,000 to £2 million or more.

Not bad for a local lad. **ICFC**

"Hello Mr Chalk, I'm Cheese."



Technical News

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

CONSTRUCTION

Stops the man with the drill

PLYAGE is a tough plastic mesh to be laid above buried gas, power, telecommunications and water services — in the highways or on residential/industrial estates — to protect them against future excavation damage.

Marketed by Electrolocation of Bristol and available in four bright colours — red, yellow, green or blue — it will instantly identify the buried plant beneath it. The new protective mesh is claimed to be more effective and easier to lay than tapes. Versions incorporating a tracer wire also allow accurate location of plastics pipes from the surface before digging, using a standard pipe locator.

It will save contractors and local authorities many thousands of pounds a year as Plyage protects against manual excavation damage by ample

warning of the existence of pipe runs beneath it. It would be laid 30 cms or 40 cms above a service when it is installed.

Unlike tapes, Plyage is colour-coded — a better method than printing which disappears in some soils — to allow quick identification of the type of service below. It is tough and will provide effective protection against mechanical excavation.

Plyage incorporates either one or two tough polypropylene reinforcing hands woven longitudinally through the mesh but not secured to it. As the bucket of a digger cuts the mesh, these bands are not sheared but pulled out into the trench and, on breaking, fray at the ends to provide a brightly coloured warning to the digger driver.

Electrolocation, 129, South Liberty Lane, Bristol BS3 2SS. Telephone: 0272 634888

Hydrostatic rollers

CONTRACTORS' Plant Division of Stothert and Pitt has added two more models to the Vibrol range of vibrating rollers, both incorporating hydrostatic transmission.

D85 Duplex has an operational weight of 655 kg. Its single control combines forward and reverse motions with positive neutral, and also gives infinitely variable speed control. In addition a deadman's handle is fitted and its release automatically applies a spring-loaded mechanical parking brake.

In the second model, the W71 single roll pedestrian machine, a different hydrostatic system is employed. The unique transmission unit combines pump, motor, control valves and oil reservoir in a single housing, eliminating any hydraulic hoses.

A single lever controls forward and reverse movements and gives infinitely variable travel speeds. When the lever is released the machine is automatically stopped by the braking action of the hydraulic circuit, giving a deadman's handle effect. The only unit that requires maintenance is the

engine and the clean layout gives all-round accessibility. Stothert and Pitt, PO Box 25, Lower Bristol Road, Bath BA2 3DJ. 0225 314400.

Coolers for Yugoslavia

CRYOPANTS of London (BOC group) has received a \$12m contract from Davy-Lowry, Sheffield for the supply of cryogenic plant and equipment to the Metalurški Kombinat Smederevo, Yugoslavia. The order, won against keen international competition, is for an 850 tons per day oxygen plant, a 70 tons per day liquefier, storage vessels and road tankers.

The plant and equipment will be operated by Tehnogas, the main Yugoslavian industrial gas organisation. It will be located at the Smederevo Steelworks near Belgrade, where a major development programme is going ahead. Delivery will take place in stages and will be completed in 1981.

Fitting out manual released

FIRST EDITION of Shopfitting Specification (SHOPSPEC 80), a new reference annual for architects, designers and shopfitters, has been published. Prepared in collaboration with the National Association of Shopfitters, it provides the specifier with an extended work of reference for this highly specialised section of the building industry.

It contains 352 pages A4 size, with numerous photographs and diagrams, and 86 full colour plates. The publication is presented in two main sections. The first contains articles on subjects from leading architects and consultants including, "The Future of Shopping Centres", "Design for Leisure", "The Design of Retail Outlets", "Interior Design Applications", "Aspects of Insurance", etc. In addition, there are articles in the form of case studies on the building and refurbishing of 12 major installations.

The second half contains 22 product sections covering all the major material and component groups. Each has an introductory article covering trends and developments, with general guidance notes of specific importance to assist the architect and designer at specification stage.

A breakdown of all manufacturers and suppliers with addresses, telephone numbers, names of contacts and, in many cases, a summary of the range of products and services offered, completes each section — detailed information on over 2,000 companies is included.

SHOPSPEC 80 costs £15 and is available from the publishers, Pennington Press, 78, Pennington Road, Tunbridge Wells, Kent TN4 0AF (telephone: 0892 36696).

Retaining process heat

USE OF Baxenden sprayed urethane insulation on six hot oil storage tanks has resulted in substantial savings in capital expenditure and a reduction in the energy required to maintain the temperature of the oil.

Making up the biggest one-off spray contract job carried out in Britain, the tanks are at the Gulf Oil Refinery, Milford Haven, Pembroke. The largest, a floating roof tank, is 80 metres in diameter and nearly 20 metres high. Insulation was undertaken by Culf Insulation Service on behalf of the main

POLLUTION

Accurate analyses made fast

PETRA is a mobile pollution monitor which will detect, measure and identify air or breath-borne pollutants down to less than one part per thousand million in typically one second.

Applications include factory atmosphere monitoring, chemical leak detection, and non-invasive screening of process workers for critical body pollution levels.

It is a mobile compact mass spectrometer system which will sample from atmospheric pressure without the requirement for a by-pass pump, and will detect and identify organic

pollutants at the sampling point to low levels — in favourable cases to lower than 1 part per billion and in general 10 parts per billion.

The sampling time, defined as the response time to 95 per cent to a step change from pure air (Nitrogen) to a prepared sample, is typically 2 seconds. That is much faster than currently available techniques, for example, gas chromatography.

The specific pollutant may be identified by means of a characteristic mass table provided with the instrument which lists the major peaks associated with each species

Multiple pollutant monitoring (MPM) is available using multiple ion detection under full microprocessor control. The detection limits and response and sampling times quoted above apply for MPM.

The sensitivity to a particular compound may be enhanced by selection of a specific separation material. The detection limit, using a selected membrane and single ion monitoring, has been demonstrated as 0.5 parts per billion for cyclohexane.

VG Gas Analysis, Nat Lane, Winsford, Cheshire, CW7 3QH. 06065 52021.

Cuts diesel decibels

PERKINS HAS set up a new applications noise advisory service to help manufacturing customers who install the group's diesel engines cut down on the overall noise generated by their finished production.

The engine itself is seldom responsible for more than half the noise created by a piece of powered equipment and sometimes for as little as a fifth. Attention to other known noise sources in a product, particularly at the design and development stage, can bring substantial improvements in eventual noise levels.

The service is at its most effective when giving assistance at the initial stages of a product, but advice can also be given to a manufacturer who wants to reduce the noise of an existing product so he can sell it into one of the world's more noise conscious areas.

Worldwide noise standards vary considerably but in general are becoming increasingly stringent. Trends are monitored continuously by

Perkins legislation specialists to ensure that noise targets are appropriate to both current and future requirements.

Perkins on Peterborough 0733 67474.

PERIPHERALS

Versatile data unit

AS MORE and more data processing ability is crammed on to the modern integrated circuit, the abilities of the handheld data capture device become correspondingly more versatile.

The latest unit from Ventek Computers, Dataport 5, can record words and numbers, process and aggregate the information fed into it and communicate either directly or through the phone network with a computer.

Armed with an on-board microcomputer the unit can be programmed to meet the user's specific needs and the batteries provide 10 hours use before recharging. It will be of value to anyone who needs to record, process and report on information from many different locations in the course of his work.

Applications will include shelf stock recording, order taking in sales and distribution organisations, shop floor data collection and, suggests Ventek, for spurge data entry by computer bureau.

Ventek is at Station House, Harrow Road, Wembley, Middx. HA9 6ER (01-903 6261).

ELECTRONICS

Rescue for defective boards

WITH MODERN multi-layer printed circuit boards worth up to £100 each, mistakes at the final stage can be very costly indeed. At best, boards may need desoldering and reprocessing — involving additional difficult work, and interfering with normal production planning. At worst, the boards may have to be scrapped, involving considerable financial loss.

One of the most common faults is overplating, where excess (tin-lead solder in plated through holes means that components cannot be inserted.

Now, a UK company has started a service that can rectify most over-plated tin lead printed circuit boards in a single, automated process.

Using a Cyrex hot air solder levelling unit, Newbury-based Circuit Techniques (a sister company of Circuit Plating Equipment) can process epoxy glass or polyimide PCBs at speeds of up to 120 an hour.

As well as treating and rectifying faulty plated tin lead boards, the new service is aimed at PCB manufacturers with a specific need for hot-air solder levelling to meet particular equipment applications.

Circuit Techniques, Unit 3, London Road Industrial Estate, Fleming Road, Newbury, Berks. Newbury 31666.

IN THE OFFICE

Plotting at high speed

LATEST electrostatic printer plotter from Versatec (a Xerox company) is the V-80, able to print 1,000 lines of 182 characters every minute — claimed to be three times faster than a comparably priced impact printer.

Nothing moves in the printing head. The paper is moved past a paper-width line of densely spaced, electrostatic writing "dots" each of which can be digitally commanded to charge the tiny area underneath it as the paper passes. In this way either alphanumeric characters or graphics can be impressed on the paper as a charged pattern.

The paper is then exposed to a liquid toner making the latent images visible and permanent.

In its plotter mode the V-80 can produce an 11 x 8½ inch area of graphics with a 200 dots/inch resolution in about seven seconds. It can also produce hard copy from a video/CRT signal source in under 20 seconds using a suitable controller.

The advantages of this kind of machine will readily be seen by those integrating printers into OEM, computer, office equipment and into word processors.

Versatec claims that this is the first time that a true 1,000 line per minute with full plotting ability can be bought for less than the cost of a low-speed impact printer.

In addition, at £4,750 the V-80 is about 35 per cent cheaper than the company's previous model 1200A, which it replaces. But it is half the size and weight, is easier to load, is quieter, and needs no calibration or adjustment.

Versatec Electronics is at 27 London Road, Newbury, Berks. (0635 42421).

Insulation testing method

MOST OF the requirements for insulation testing up to 1,000 volts can be met by the RM10 just announced by Evershed and Vignoles.

Insulation resistance can be measured, at five voltages between 50 and 1,000 volts, the lower values enabling tests to be made without endangering components. The integrity of earth conductors, or ring main continuity can be checked using the appropriate setting, and it is also possible to measure voltages up to 500 V, AC or DC.

An interesting safety feature is that the instrument acts as an AC/DC voltmeter on any switch position before the test button is pressed. The meter will then immediately indicate to the operator if the circuit is not isolated when the test leads are connected.

More from Archcliffe Road, Dover, Kent CT17 9EN (0304 202620).

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PRINTING

Typesetter link unit

AN ELECTRONIC interface that allows virtually any computer to be connected to any phototypesetting system has been introduced into the UK by Alphatronic Systems, P.O. Box 27, Stanmore, Middlesex HA7 1DS (01-204 1144).

Made in France by SEAT of Paris, the unit is specifically set up for each combination of computer and setter using programmable read only memory chips (PROM) whose programs are decided at the factory.

In this way the maker can offer almost any interface while the user can if necessary use more than one system to connect a number of computers into the typesetter. Buffering in the forced data rates to suit the lowest speed of the two connected units provide for optimum transfer rate.

MACHINE TOOLS

Recruiting youngsters

BECAUSE THE Machine Tools Trade Association believes that an outdated image of its industry is the major reason why many young people are not immediately attracted to it, the MTTA is to have open days during MACH-80 at Birmingham's NEC from April 22 to May 2.

The association wants to attract a greater share of the brightest young people from Britain's schools, colleges of technology, and universities, to become technicians, technologists and craftsmen of the future.

In order that students get an up-to-date impression of the industry including its high-technology, high-precision, and present-day sophistication, MTTA has invited over 3,000 heads of technical studies and universities with their students to spend a day at the exhibition.

Further information from Ian Whitaker, MTTA, 62 Bayswater Road, London W2 (01-402 6671).

Building and Civil Engineering

Expansion plans at M&S

MARKS AND SPENCER has awarded contracts worth over £15m to Bovis Construction, and the company has already started work on three major jobs at Truro, Bournemouth and Kidderminster. Remaining work should start in the next few weeks.

At Truro, the company is building a store which will give 21,200 sq ft of sales floor; at Bournemouth, a two-store extension will offer an additional 7,800 sq ft; and the Kidderminster project will extend an existing store into a new shopping mall, thus increasing the sales area from 8,300 to 14,700 sq ft.

Due to start shortly are other

projects including a new 10,400 sq ft second floor sales area at Cambridge, and a 12,000 sq ft extension at Middlesbrough.

In addition, the company began fitting out new stores at Harrow and Milton Keynes which together will provide nearly 50,000 sq ft of new sales space.

This month sees the completion of the major extension to Marks and Spencer, Edinburgh store, which is the largest contract ever undertaken by Bovis for M & S and effectively doubles the size of the sales area there to 54,500 square feet. The three and a half year extension programme at this

store included a great deal of complicated civil engineering work to take the store under Rose Street Lane at the rear, and then develop the basement of a building on the other side of the street to incorporate it into the new sales floor extension.

Other new stores will open before the end of March including a new one at Blackpool (providing 38,000 square feet of selling area) and the fitting out of a new store at Walsall of 27,400 square feet.

Finally, an extension at the Eastbourne store brings the total sales area here to 27,000 square feet. This store was opened earlier this month.

City centre plan for Swansea

DEVELOPMENT OF the St. Mary's and St. David's Square site in Swansea's city centre is the subject of a £4.5m contract awarded to Cecil Atkinson & Co. by the Swansea City Council.

Traffic free shopping on two levels includes a department store, three large and 12 smaller shop units, a licensed restaurant and a discotheque, representing a £10m investment.

Cementation involvement covers the construction of the overall structural shell, including reinforced concrete foundations, ground beams, and frame faced externally in brickwork.

An elevated pedestrian link bridge will provide access to the adjacent multi-storey car park, and there will be landscaped pedestrian areas with paving, trees and shrubs.

The company expects to complete the contract in two years.

Laing in Spain

LAING SA, Spanish member company of the John Laing Group, has been awarded six contracts together worth £17m, to carry out work on industrial, public and sporting projects in various parts of Spain.

At Cofrentes in Valencia, south eastern Spain, Laing has started work on a 10-month project to construct a concrete trench for housing a network of gas exhaust ducts serving buildings in the second phase of the Cofrentes nuclear power station.

In Madrid Laing SA has started work on two new contracts. One is for the construction of 6,500 yards of sewage service ducts for Madrid City Council. The other is for Interbox SA at their Valdemorillo factory in Madrid which manufactures a large proportion of tin cans for Spain's canned drinks. Laing is installing service trenches, pits and machine bases for a new production line.

IN THE MIDDLE EAST

CONSULTING ENGINEERS C. H. Buckle and Partners who were responsible for the electrical and mechanical services and acoustic design of the new airport at Sharjah, opened last April, have been appointed for the electrical and mechanical services, preparation of tender documents and supervision of contract work for another new international airport at Al Ain in Abu Dhabi.

The overall consultancy contract was won by a consortium comprising Scott Wilson Kirkpatrick and Partners (civil works); Murray Ward and Partners (architects); Northcroft Neighbour and Nicholson (quantity surveyors); British Airports International (airport management consultants); T. W. Welch and Partners (navigation aids); Minister Agriculture (landscaping and planting); and C. H. Buckle and Partners (mechanical and electrical services).

The new airport will include international and national passenger terminals, an operations block, a control tower, a fire and rescue building, a transport repair building, a fuel compound, a VIP suite, a Royal Flight Pavilion and one 4,000-metre runway. There will be extensive air conditioning and all electrical communications and water services to be found at a modern airport complex, including airfield lighting.

Buckle's involvement will cover equipment and installation to the tune of between £8m and £10m while the total cost of the airport was estimated a year ago at \$400m.

THREE MORE Middle East contracts for metal building and ventilation products for H. H. Robertson (UK) add up to over £1.4m.

One order, worth over £800,000, is for 30,000 sq metres of building cladding for the giant Wasi 2 Water Treatment project in Jeddah. The order also includes 164 heat exchangers and 4,500 sq metres of louvers.

Work at The Hermitage for Solihull MBC involves the conversion of a children's home into ten flats for the elderly. The £387,500 contract also includes the construction of 14 bungalows.

Work at The Hermitage for Solihull MBC involves the conversion of a children's home into ten flats for the elderly. The £387,500 contract also includes the construction of 14 bungalows.

Also included in the contract are extensive alterations and refurbishment to the existing traction maintenance depot and area maintenance engineers building.

Work will start soon and take until August 1981 to complete.

Updated housing

MORE THAN £24m is to be spent in the Midlands and South Yorkshire on the modernisation of local authority housing at Sheffield, Nottingham and Solihull.

In Sheffield, Cubitts, members of the Tarmac Group, will improve a total of 349 homes on the Manor Estate and at Edward Street under contracts worth £1.65m.

At Nottingham the company

has topped the £14m mark on a local authority housing estate. Under the latest phase of the development valued at £508,000, 50 houses will be modernised, bringing the total value of Cubitts work at Lenton Abbey Estate to £1,567,000.

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Glaxo work in London

COSTAIN Construction has secured new business totalling £1.6m with Glaxo Group Research for conversion and modifications to buildings on the outskirts of London.

One task, worth just under £1m, involves modifications to an existing building, including electrical installation, air conditioning and general finishing. The other demands the conversion of an existing single-storey building into a two-storey laboratory and research building to house a fermentation pilot plant and associated facilities.

Large cold store job

WORTH MORE than £1m, a contract with United Carlo Catt covers the construction by Smith and Partners of a 30,000 cubic metres (1m cubic feet) public cold-store at Attleborough near Nuneaton in Warwickshire. Work has started and will be completed during the summer.

Designed as a single racked chamber served by two automatic doors leading to an open loading bank, this new facility will accommodate up to 8,000 tonnes of various products, and will be Lloyd's-approved, and will offer bonded services.

IN BRIEF

● Geoprosco International (part of Trafalgar House group) has won an extension to an oilwell drilling contract in excess of £2.75 for the Abu Dhabi Company for Onshore Oil Operations.

● Lesser Design and Build has received a contract worth about £250,000 for the first phase of shopping for the Boots' store at Oldham Town Square Shopping Centre.

● Steelwork contract worth £475,000, has gone to Graham Wood Structural for supplies to the CEG's Littlebrook "A" Power Station at Darford, Kent.

● New work for John Laing includes building 10 new shops in Stranraer town centre under a £1m award, and a £150,000 contract on a farm at Wetherhill, Carlisle, to be transformed into a sanctuary for stray animals.

● Fortytwo houses, flats and maisonettes are to be built under a £1m contract by John Mowlem for the Borough of Kensington and Chelsea on the Swinbrook Estate.

● Agreements between Consco, of Medford, Wisconsin, U.S. and Babcock Power license the British company to manufacture and market Consco's range of heat recovery boilers and heaters for all industrial and commercial applications.

● During the past three months H. Berkeley has won work worth over £1m for the supply and delivery of hardcore, hoggins, building sand and gravel, etc. for various sites in the Greater London area and Southern Scotland.

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Doing business the Confucian way

Richard Hanson on a company which claims altruism as its reason for expanding from its home base of Taiwan

"CONFUCIANISM" cohesion has become a catchphrase in the West among people trying to explain the extraordinary industrial success of Japan, Singapore, South Korea and other Far East nations. Yet Far Eastern industrialists themselves seldom make explicit their debt to the age-old philosophy of Confucius.

Not so Dr. T. S. Lin, chairman of Taiwan's second largest multinational, Tatung, whose electronics business has mushroomed ten-fold in the past seven years.

Dr. Lin, a title he bears proudly in his dual role as president (and teacher) at the company's respected Tatung Institute of Technology, is convinced that the 18th century ideas of Adam Smith and his profit-minded ilk offer no solutions to the problems faced in the latter half of the 20th century. He claims that his far-flung empire is really the extension of a Confucianist missionary zeal to do good.

"Confucian philosophy still keeps its brilliant light," the chairman declares in his modestly appointed private dining room. Even the name of the company (Taiwan's oldest) is Confucian, meaning the "world is a family."

Dr. Lin's stated business goal is to "help his friends around the world." On profit, the god of Western capitalism, he declares: "Create profit and share with your customers."

Under Dr. Lin's leadership, Tatung has experienced phenomenal success. Sales have leapt from less than \$80m in 1972 to nearly \$800m last year (a stunning 114 per cent rise over 1978's figure). The export ratio is now about 25 per cent. Tatung is not too well known

overseas, but it looms large in the growing Taiwanese economy.

With around 25,000 employees, in 1978 Tatung's revenues were equal to 1.6 per cent of Taiwan's GNP and its exports 0.6 per cent of the total.

Competition from dozens of foreign electronics companies which have invested in Taiwan keeps Tatung at number four on the list of leading electronics exporters (behind giants like R.C.A. and Zenith). But it is the leading domestic producer of a wide range of consumer electronic goods such as colour TVs and home appliances, with expanding involvement in such areas as heavy electrical equipment and telecommunications. These are all areas in which Taiwan sees strong growth for the 1980s.

Family

Chairman Lin, now 61 years old, assumed his post in 1942 at the eager age of 24 when the company had only about 180 employees. Tatung had been founded by Dr. Lin's father in 1915 as a civil engineering and electronics company and became the island's first steel and machinery maker two years before the Pacific War broke out. The strong family tradition in the company (which is public, with about 30 per cent of the shares in the hands of Tatung employees) appears to continue for many years: Dr. Lin's own son is now serving as company president.

There is little doubt that Dr. Lin himself is still firmly in command of the company's development; he is quite sure of where he wants to go and how fast he intends to get there. Tatung faces a long uphill struggle in gaining a name for



Dr. T. S. Lin of Tatung, which means "the world is a family."



itself in most of the major markets of the world, but Dr. Lin does not seem to mind confronting the well established giants of the electronics industry. Already the company has taken the first few steps into overseas markets as a manufacturer.

In Singapore and Hong Kong it has assembly plants for both black and white and colour televisions. Through indirect routes its products are reportedly becoming quite popular in mainland China itself, which encourages the purchase of made-in-Taiwan products.

In the U.S., Tatung claims to be the largest producer of electric fans. It has just constructed a colour TV plant, with an initial capacity of 5,000 sets per month, at Long Beach in California.

Least one be unimpressed with the small scale at which Dr. Lin is beginning in the U.S., one should report his long-range goal of using the American plant as a base not only for U.S. sales (which may be difficult because of limited marketing capability) but as a launching pad for exports to other

parts of North and South America, Africa, etc. Starting with U.S. sales of around \$30m per year, Dr. Lin has set the sales goal of \$1bn by the end of the decade.

The idea of exporting from America, while the U.S. is still being flooded with electronic goods from overseas, may seem slightly far fetched. But Dr. Lin claims it can be done. His motivation, of course, is that exporting from the U.S. is needed to cure the chronic American balance of payments problem.

Dr. Lin is also probing "friends" in Europe to find a suitable place to build a TV plant, or set up some kind of joint venture arrangement. The rumours in Taipei, Taiwan's capital, have it that Ireland is the most likely site, but it was also suggested that Tatung had a fleeting interest in acquiring the television part of Britain's Decca.

Dr. Lin is also known to be interested in working out some kind of agreement with General Motors of the U.S. to build cars in Taiwan (GM is in the final stages of talks on a joint ven-

ture truck plant for the island). The government in Taipei has been actively promoting the idea of large-scale car assembly.

Dr. Lin is most often criticised by outside observers for his lack of emphasis on making profits, and for the sometimes uncertain state of the company's balance sheet as a result of heavy capital spending and borrowing. No one, however, would go so far as to suggest Tatung is in any danger of financial collapse.

Tatung's profits did slump in the mid-1970s, but Dr. Lin has managed to improve profitability from about 4 per cent of sales in 1975 to 6 per cent in 1979. Net earnings in 1979 of \$5.1m was nearly triple the 1975 figure.

Tatung does insist, however, on investing in projects, such as the American TV plant, which will only turn in a profit in the long run, if ever. And his profit margins on products are believed to be slimmer than the foreign competition.

Strained

A financial upset would be particularly embarrassing given Dr. Lin's position in Taiwan as chairman of the powerful National Federation of Industries and as speaker of Taipei City Council.

There is also some doubt as to how strained Tatung's own management resources will become as the company continues to grow overseas. Dr. Lin himself seems to keep a schedule which would strain almost any executive. The time devoted to Tatung occurs mostly during early morning, evenings and weekends.

There is little doubt that Dr. Lin is serious about his

philosophy of basing business relationships and expansion on the idea of benefiting all parties involved, rather than on exploitation of one side by the other.

Tatung itself has been the beneficiary of links with other companies.

The most important is with Toshiba of Japan which holds a 6 per cent stake in Tatung. Starting in the early 1950s, Dr. Lin negotiated a series of licence agreements to secure Toshiba know-how for the production of wattmeters, motors, transformers, TV's and other products. Tatung has also been producing refrigerators for sale in Japan under the Toshiba brand. Moreover, Toshiba provides the colour picture tubes for Tatung televisions and is the source of Tatung's technology for starting up tube production in Taiwan.

But Tatung is not willing to be dominated by any other company. This is perhaps reflected in the structure of its U.S. TV venture, where it holds 50 per cent, the other half being split among a large number of small investors, mostly small U.S. banks and businessmen.

Tatung's growth over the past decade reflects the enormous expansion of the electronics industry in Taiwan, helped by large doses of foreign investment. From an annual production valued at about \$364m in 1970, the industry achieved an output of more than \$3bn last year (about 75 per cent is exported). In the next three or four years, electronics is expected to replace textiles as the number one export earner.

Tatung's long-range strategies might not appeal to the management of a western company because they will not produce profits for a long time. Dr. Lin, however, expects to be around for many years to come, having already served 38 as chairman. From his island home of Taiwan, he sees the Confucian way of doing business as an integral part of the future.

Management abstracts

These summaries are condensed from the journals of abstracts published by Anbar Management Publications. Readers wishing to consult original texts should write to: PO Box 23, Wembley, HA9 8DJ.

an example of a reporting format.

The Future of the Multinational Corporation. W. J. Keegan in *Journal of International Business Studies* (U.S.), Spring/Summer 79: p. 98 (7 pages, charts).

Points to the rising tide of nationalism around the world, and discusses the threat this poses to multinationals, unless they are capable of demonstrating that they produce an economic gain which could not otherwise be achieved and that the gain is being shared out equitably; offers scenarios for five political-economic regions of the world, and identifies future threats to multinationals.

How to Compete in Stagnant Industries. R. G. Hamermesh & S. B. Silk in *Harvard Business Review* (U.S.), Sept/Oct 79: p. 161 (8 pages, tables).

Identifies common characteristics of business strategies that have succeeded in stagnant industries, and outlines top management's role in the growth, innovation or cost reduction processes. Stresses that stagnation should be accepted as a fact of life, not as seeking the unattainable for cash should be avoided, and that the need for good managers must be recognised.

Transfer Pricing and its Misuse. A. Smith in *European Journal of Marketing* (UK), No. 4/79: p. 167 (5 pages, illus., charts).

Gives examples of the distortion that inter-divisional pricing can cause to marketing decisions; argues that the marketing manager ought to know the "true" variable costs incurred by the group, and ought to be judged not on the financial results of his subsidiary but on the real contribution earned by the group from the subsidiary, less the local costs incurred to produce that contribution; gives

Accounting for Inflation in the Capital Budgeting Process. D. D. Raiborn & T. A. Ratcliffe in *Management Accounting* (U.S.), Sep. 79: p. 19 (4 pages, tables).

Points to distortions that inflation can cause in capital expenditure projections; discusses how assumptions on the way inflation will affect the components of the projection can be brought within the appraisal process, particularly when the net present value model is used.

Audit Committees: are the High Hopes Well-Founded? E. Woolf in *Accountancy* (UK), Oct. 79: p. 73 (1 page).

Takes a sceptical look at the current enthusiasm for audit committees, and suggests that (1) in most companies they would add to the bureaucracy but achieve little else; (2) in the minority of companies where tame non-executive directors are brow-beaten there is no reason to think that they would take a more independent line against the chief executive, if they appeared under the guise of an audit committee.

The Search for Executives. J. Wareham in *Across the Board* (U.S.), Sept. 79: p. 23 (4 pages).

Discusses reasons why executive search firms sometimes fail to deliver the goods—identified as seeking the unattainable candidate, failure to make all the necessary contacts, failure in candidate appraisal, and breakdown of final negotiations.

Cost-Benefit Analysis of Corporate Responsibility. L. J. Brooks in *CA Magazine* (Canada), Oct. 79: p. 53 (5 pages, tables).

Points to a gradual move towards social responsibility reporting, and argues that if a company is to take its social responsibilities seriously, then it ought to go beyond historical reporting and bring social and environmental considerations into capital investment decisions; demonstrates how this can be achieved through the use of cost-benefit analysis.

How the public and its peers differ on corporate priorities

ANY COMPANY chairman worth his salt can explain away a poor set of results by pointing to all those damaging events that were beyond management's control. A lorry drivers' strike here, a revolution in Iran there, and oil price rises everywhere.

If there is no convenient crisis which fits the bill, why not blame the hostile social and political environment in which the company struggles to survive? Then there is always the cost of the employment laws, of the equality legislation, of improving health and safety at work, of reducing pollution levels... the list is endless.

But there is a considerable difference between the two categories of excuse. The sudden crisis is very hard to predict, whereas changes in the social environment generally occur slowly and are easier to forecast. The gestation period between an idea being developed by a small group of people to it achieving mass appeal, and finally being enshrined in legislation, is very long.

In other words, social changes are not an acceptable excuse for poor corporate performance but a sign that the management was unprepared for the changes. Few people would disagree that the environment in which business has to operate is becoming more hostile. Companies are increasingly under pressure to perform better from

all parts of society with which they have contact.

The environmentalists and local communities protest at how company pollutes their air with noise or dangerous chemicals, and insist they want their rivers kept clean. The consumers want more reliable and safer products, and if they are going to eat them they want to know what they contain. The employees want better and safer conditions of work, governments want all manner of things, and at the end of the year the shareholder wants a better dividend.

How can a company identify those issues which are going to affect it and sift the important ones which need a response from those that can be ignored—for the time being anyway? It is common for companies to conduct extensive economic and marketing analyses, but any systematic study of the social issues which may affect a business is very limited indeed. Such considerations are generally left to the instincts of the management.

Only in the U.S. is the systematic analysis of social and political pressure—both present and future—not considered to

be exceptional. In Britain, by contrast, it receives scant attention.

One of the organisations offering a service which tries to identify the key issues is Inbucon, the second largest firm of management consultants operating in the UK. Its "Corporate Priorities" programme, begun 18 months ago, has brought to this country some well established techniques which were developed by its sister firm of U.S. consultants, Yankelovich, Skelly and White.

Newspapers

The analysis is done in two ways. Corporate Priorities' report is based on an extensive, basically conventional opinion survey of the general public, and also what it calls "in-depth" discussions with "leaders." These include, among others, top civil servants, trade union leaders, academics, politicians and senior people in the various media.

The second element, which has only just been introduced, consists of an analysis of "European Trends." This is

prepared using an updated World War II intelligence technique, by analysing the content of a great number of local newspapers. It is based on the notion that, since there is constant limited amount of space available in a newspaper, the issues on which it concentrates will reflect those which concern the local community most. This interesting thought seems questionable from the journalist's side of the printing presses, but its proponents claim that the results bear them out.

Last year's Corporate Priorities programme showed some interesting divergencies between what the "leaders" believed and what the general public saw as important. And there were some particularly surprising differences between Britain and the U.S.

For instance, it demonstrated that anti-business sentiment in the U.S. runs much higher than in Britain. As a source of information to the public, corporate executives are seen as twice as credible in Britain as in the U.S.

Surprisingly enough, the British public appears to have a much greater awareness of the relationship between pro-

ductivity and earnings than its U.S. cousins. Yes, really. In the U.S. 60 per cent of the general public sample agreed that "employees had a right to a raise every year" whereas in the UK 72 per cent actually disagreed with the statement that salaries and wages should increase without improvements in performance. (The survey was made 12 months ago, before the Tory election victory.)

More revealing—for the prediction of future issues which will affect business—are the areas of disparity between "leaders" and the general public.

Take pollution. The "leaders" in the UK questioned a fairly small group of 34 people, since this was only the initial programme) appeared to be rather complacent. Inbucon reports that they were generally satisfied with the progress made in reducing air pollution, and believed that industry had adapted responsibly to government regulations.

The British public, according to "Corporate Priorities," is not in agreement. "In stark contrast to leadership views, the public regards air pollution as

a major public matter of concern. Nearly nine people in ten say that air pollution is an issue of some urgency, with almost three in four members of the public calling for improvements in regulation enforcement or stricter controls."

Waste from factories and lead vapour from petrol appear to be the British public's primary concerns. Concern at pollution was felt by all members of the public irrespective of age, education or economic status.

"Business will have to find ways to respond," says the Inbucon study. "The level of public concern is such that any major accident in Britain, such as the chemical leak at Seveso, Italy, will certainly cause vigorous public reaction and cries for new regulations."

Another marked difference between the level of concern shown by the leaders and the general public, is on product safety. Again the leaders are fairly complacent, although they recognise that the EEC will take actions to increase manufacturers' liability.

But, says Inbucon, product safety is a key issue of urgency to the public. It ranked immediately below inflation and Government planning as an issue which is "fairly urgent" and personally affects the individual.

Details: Clara Richardson, Inbucon, 197, Knightsbridge, London, SW7.

Jason Crisp

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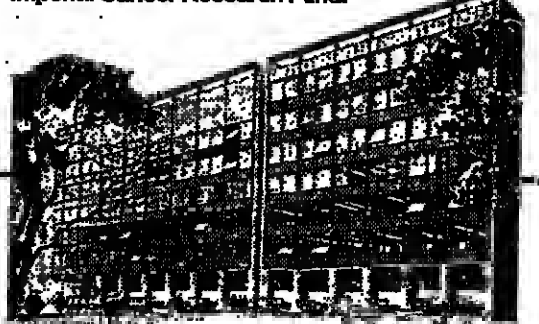
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PHILIPS

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14
LOMBARD

How to control money now

BY SAMUEL BRITTAN

BY FAR the best part of the Treasury-Bank Green Paper on Monetary Control is the introduction, which reads much more like the Treasury than the Bank. This explains why there can never be one perfect measure of the money supply; but that it is convenient to use the most widely known definition "Sterling M3" to state the target and influence expectations. Other aggregates will be watched to make sure that policy is followed in the spirit as well as the letter, and the definition chosen is not sacrosanct for all time.

Technicalities

In practice the most important distortions are those imposed by the authorities themselves—above all the "corset"—to make the numbers look better, without paying the interest rate price of a proper money supply policy; and it is good news that the corset is soon to meet its death.

As far as the practical control of the money supply is concerned, the key rule is that central banks cannot control both the quantity of money and the level of interest rates. If they try to do both they are likely merely to generate an inflation which will eventually lead to both money supply and interest rates soaring out of control. This simple rule is far more important than the technicalities likely to dominate the threatened six months of discussion.

My own reaction to the chapters on a possible change to control by regulating bankers' deposits at the Bank of England—the so-called "monetary base" or cash ratio method—is twofold. First, they are all trees and no wood—a reiteration of familiar negative points. The mistake of the excellent BBC series "Yes, Minister" is to overlook that the Sir Humphreys of this world who stonewall successive Ministers are in the financial area more likely to be in the Bank than in the Civil Service.

But my second reaction is that this is the wrong battlefield on which to fight them. The effort required for a war of attrition—which would prob-

ably not succeed without nationalising the Bank in earnest—would be better spent on major policy matters. The main substantive argument against a move to the monetary base is the danger that the transition will undermine the monetary control.

The germ of a better alternative is to be found in the Indicator System discussed in the Green Paper. In its simplest form, increases and decreases in Minimum Lending Rate (MLR) would be automatically triggered off by departures of the money supply from the prescribed range. Of course, there would sometimes be an override—either for political reasons or technical reasons. But there would be a greater degree of automaticity than at present with the onus placed on those who wanted to intervene.

Market-related

The defect of the Indicator system is that the MLR would still be an administered rate. It would be much better to have a market-related MLR—which we indeed used to have until the link in May 1978, a blunder which encouraged the very politicisation of interest rate policy which the Bank makes a show of deploring.

The MLR should be put back on a market-related basis immediately but preferably linked to interbank rather than Treasury Bill rate as to the past. Of course, all short-term rates are heavily influenced by the Bank's money market operations; and leading indicators could be used experimentally and informally as a guide to these operations.

This would allow a monetary base to evolve very gradually from the present requirement that Clearing Banks should hold 14 per cent of eligible liabilities on deposit within the Bank of England—a requirement to be extended to other banks. Emergency could then turn to the far more important subject of the Government's anti-inflation commitment so long as it finances itself by sales of undeposited long-term stock with redemption yields near 15 per cent.

INFORMED OBSERVERS of the prison system have been witnessing in the last decade a public institution in perpetual crisis—a system that has been troubled by concerted disobedience and violence, often inspired by the techniques of protest adopted by other groups in society.

The considerable publicity that the activities of a handful of difficult prisoners attract has been matched by indifference among prison staff leading to growing industrial action. The complete breakdown was averted only temporarily by the setting up in November 1978 of a Committee of Inquiry into the Prison Service, which reported in October 1979.

At the root of most of the troubles has been the size of the prison population that has grown unmanageably by the available accommodation in outdated penal establishments. Last week the daily average prison population reached an all-time high of 44,800, five years ago Mr. Roy Jenkins, when Home Secretary, declared that 42,000 was the system's breaking point.

While overcrowding contributes to the problems of control and security, it has also even more profound effect on the myriads of practical problems facing the prison administration, which no amount of ingenuity will turn away.

Victorian prison cells which

were designed for both sleeping and work make ample single accommodation. Shared by three prisoners they are grossly overcrowded and squalid; the presence of three chamber-pots, filled overnight with the nauseous process of slopping-out when prisoners are unlocked in the morning, makes the situation indefensible.

The provision of water closets is not ungenerous, but the problem is in allowing prisoners access to them during the hours that they are locked up in the interests of control and security.

The expensive solutions to this problem have been produced at Albany in the Isle of Wight (with its system of electronic unlocking of one cell at a time) and in the new Holloway prison for women (where toilets are provided in every cell). Those exceptions apart, there is no general solution in sight which even a lavish public expenditure could provide.

Overcrowding affects all prison services. Water supply, drainage, cooking facilities, workshop space, time within the day to allow those activities that are not only desirable but necessary (such as education, recreation and group psychotherapy) all prove inadequate. As the population inexorably increases, so the staff response is made more difficult and their morale reduced to the point of rebellion.

Above all in this press of

population prisoners face a loss of identity. The prison service is unable even to give the individual prisoner a modicum of attention that might assist in any kind of hopeful rehabilitation. The effect is particularly marked in the case of life-sentence prisoners, whose numbers have increased in 20 years from under 200 to around 1,500, a large proportion of whom are domestic killers in prison for the first and only time in their lives.

They depend even more on senior staff for support in the painful process of adjusting to the indeterminacy of their sentences and in the emotional climates that attend their recurrent hopes and disappointments about release.

For them and other prisoners serving determinate sentences there has been an undoubted benefit from parole, introduced in 1987. However, parole has done little more than hold back the tide of the rising prison population.

If a large number of prisoners had earned release by 1979, the total impact has not been enough to combat overcrowding.

Victorian prisons form the core of our penal institutions. Pentonville and Wandsworth (in London), Walton (Liverpool), Strangeways (Manchester), Armley Road (Leeds), and Winson Green (Birmingham) were all built in the early years of the 19th century. With their lofty halls, with cells opening

families disrupts the basic human relationships and makes resettlement on discharge that much more difficult. The most serious disadvantage of a prison system is to absorb and absorb its standards and attitudes. Identification with a criminal community means a rejection of the standards of a normal society.

Yet we subject increasing numbers of offenders to all this, and at a cost that is enormous. Any satisfaction that society may, not unnaturally, feel at imprisoning an offender has to be set against its true cost in suffering to the offender and his family, not to mention the not inconsiderable cost in maintaining prisoners at the rate of £5,000 a year.

Society's immediate task is to limit the devastating consequences, by keeping offenders out of prison wherever possible, by making prison itself more meaningful for the few that have to go there and, consistent with public safety, release prisoners as early as possible.

All these features of our prison system have been known to successive Home Secretaries. But the present incumbent is the first to grasp the nettle of a major reorganisation of prisons, in which the problem of overcrowding is acknowledged, and the need for a new approach is pressing. Mr. William Whitelaw's speech to the Conservative Party Central Council's meeting on Friday at Bournemouth outlines the

Government's policies to be announced after the Easter recess. Most significant is Mr. Whitelaw's declaration of a more selective sentencing policy from the courts. Prisons are not to be cluttered up with trivial and inadequate offenders. The drunks, the fine defaulters and the mentally abnormal are prime candidates for treatment other than incarceration in a prison cell. But their removal from imprisonment will make only a dent into the overcrowding problem.

Mr. Whitelaw said prison should be reserved for those who really need to be contained. He said his own political supporters might find unpalatable his proposals for drastically reducing both the number of people who go inside and the length of time that others are currently being sent inside.

The key to Mr. Whitelaw's proposals lies in the degree of co-operation he can elicit from the judges. He said that changes would be needed in sentencing policy to reduce the prison population. That can only mean a willing partnership between the prison administration and the judiciary. Courts will be asked to take account of and act upon prison notices that declare that there is no room at the inn. Much shorter sentences will have to be accepted by the judges and the public for all but the two or three thousand dangerous offenders.

THE WEEK IN THE COURTS

BY JUSTINIAN

oo to lines of galleries narrowing in distance, their streets were admirably lit, their unconscious purpose of reducing their occupants to insignificance. Modern prison building attempts to counter this assault on the individual's self-esteem, but it cannot remove the inevitable effects of imprisonment in diminishing those admitted into prison.

The monotony of the small-scale pattern of existence, the restrictions on mobility and the choice of activities, and the lack of opportunities for accepting expressions of tenderness in a rough masculine society are damaging to ordered human and social relationships, at least in the initial pressing. Mr. William Whitelaw's speech to the Conservative Party Central Council's meeting on Friday at Bournemouth outlines the

separation from wives and families disrupts the basic human relationships and makes resettlement on discharge that much more difficult. The most serious disadvantage of a prison system is to absorb and absorb its standards and attitudes. Identification with a criminal community means a rejection of the standards of a normal society.

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Doncaster draw still a worry

THE ANOMALY of the draw at Doncaster, where low numbers had virtually been the kiss of death to horses drawn in those positions in recent years, is still there.

However, now the position has been completely reversed and everyone is desperate for a low number.

Backers, in particular, have good reason to feel aggrieved. Every newspaper in the country, and the ITV racing team, reiterated the value of low numbers. There was no prior announcement from the racecourse concerning the nurtured ground so punters had every reason to believe the situation was unchanged.

The new significance of the draw undoubtedly left ante-post backers of such well-fancied Lincoln hopes as

Smartest, Silky's Knight and Black Minster ruefully mulling over their vouchers. However, one man who received a deserved break when the draw came was Bill Wrightman.

The Upham trainee, responsible for the Lincoln runner-up for three consecutive years from 1973, whose Air Trooper was bailed out two years ago, found that his King's Ride had been drawn No. 2. Under a strong finish from Geoff Baxter, the lightly weighted four-year-old won the £12,000 first prize.

LEICESTER
2.15—Irish Fondle
2.45—The Old Feller
3.15—Ringside
3.45—Credit Centre
4.15—Baron Blakeney
4.45—Lindy Ay
5.15—Mirsuite

SCOTTISH
1.20 pm News Headlines and Read and Weather Report. 2.00 Money-Go-Round. 2.30 Monday Matinee: "Too Many Mothers." 3.00 News. 3.30 The World This Week. 4.00 The World This Week. 4.30 The World This Week. 5.00 The World This Week. 5.30 The World This Week. 6.00 The World This Week. 6.30 The World This Week. 7.00 The World This Week. 7.30 The World This Week. 8.00 The World This Week. 8.30 The World This Week. 9.00 The World This Week. 9.30 The World This Week. 10.00 The World This Week. 10.30 The World This Week. 11.00 The World This Week. 11.30 The World This Week. 12.00 The World This Week. 12.30 The World This Week. 1.00 The World This Week. 1.30 The World This Week. 2.00 The World This Week. 2.30 The World This Week. 3.00 The World This Week. 3.30 The World This Week. 4.00 The World This Week. 4.30 The World This Week. 5.00 The World This Week. 5.30 The World This Week. 6.00 The World This Week. 6.30 The World This Week. 7.00 The World This Week. 7.30 The World This Week. 8.00 The 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THE ARTS

Haymarket Studio, Leicester

For Whom the Bell Chimes

by B. A. YOUNG

As we saw his first three — first three produced — that is — Graham Greene taken an increasingly colorful line in the theatre. A first act of *Carrying a Stone*, tells us, was "almost completely farce," something most of us overlooked. In *The Return of A. J. Raffles* that quasi-heroic figure was treated with fine disrespect. Now we have a farce with a kind of neo-Molleresque quality, in which there is only general reference to current life and the characters are much more than puppets. Employed purely to precipitate situations, Mr. Greene has long been expert in farce. Some of the stories in *May We Borrow Your Husband* are farcical, and first appeared in *Punch*.

The Leicester piece is a very lightweight farce but none the worse for it. It has little more substance than a *Punch* and *Judy* show, but the fertile situation which starts it is capable of enough manipulation to keep it very funny for a little under two hours.

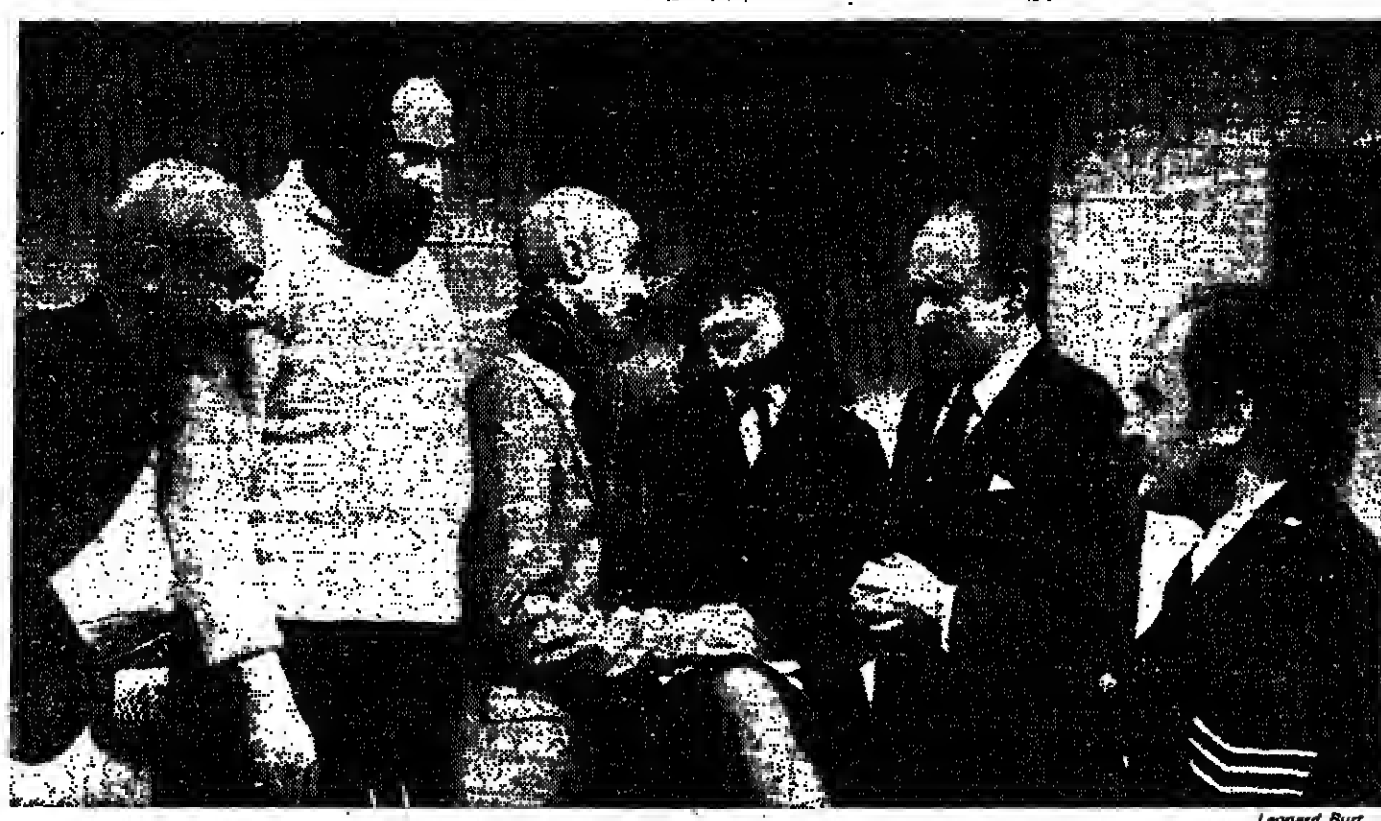
Felicity Harwich's fiancé (he has no name of his own) contrives to exchange personalities with a co-man who has come soliciting for charity, and departs leaving the co-man in charge of his flat, where Felicity

is dead in a bed that, like everything else in the flat (designed by Terry Parsons), folds up into the wall. Complications are added by Colonel Fenwick, an inspector for the charity, the co-man purports to represent, by a quarrelsome Scottish neighbor, by a doltish police sergeant and a police-inspector recently converted to a female from a transvestite male.

No need to describe the plots of farces. This one simply continues on an increasingly knock-about level until it is concluded, not very convincingly, by sending off all but two of the characters and leaving the remaining duo — the co-man and the police-inspector — preparing for a life of romance.

No one could call it important, but it is good fun, and it is brightly played under Robin Midgley's direction. The author came and watched some rehearsals, so we may know the result to be authentic.

It is preceded by a curtain-raiser. Yes and No, whose subject was revealed to Mr. Greene in a dream. A director is rehearsing a young actor in a part where the only lines are either "Yes" or "No." It fills half an hour amusingly, but only just. Like the longer play, it is most ably acted.



Phil Bowen, Malcolm Rennie, Roy Macready, Carolyn Moody, Derek Smith and Alan Starkey

Stuttgart

Kagel's Creation

by DOMINIC GILL

Literally translated, the title of Mauricio Kagel's new music-theatre spectacle, *Die Erschöpfung der Welt*, means "The Exhaustion of the World." But more to the point is the twist to, and the pun on, the word *Schöpfung* ("Creation"): for Kagel's Creation is a negative force, and his *Erschöpfung* a *Schöpfung* taken — as many German *er*-words take their root meaning, *ertrinken*, *erschlagen*, *erstören*, *erlöschen*, *erfrieren* — to its last, ultimate extreme. *Die Erschöpfung* is not a hymn to the life-force, but a dark elegy for God and Man. The curtain rises on a smoking, devastated landscape, and the mutilated, mutated woman, male and female grotesquely combined, that drags its four legs painfully across the scene announces a bitter parody of Genesis:

In the end God created the Heaven and the Earth, And the Earth was waste and void, and the spirit of God swam in the waters. And God said: Let there be Light, And there was no Light, and God saw that the Darkness was good, and did not divide it from the Light. And God called the Darkness, Day.

The Delity of *Die Erschöpfung* is a negative, Manichean figure; perhaps he enjoys the misery and evil of the world; perhaps he is powerless to stop it; perhaps, as Kagel remarks in his preface to the work: "He is just drunk." Whatever the precise theological circumstance, the composer's theme is explicit, a reverse-Miltonic canon repeated insistently throughout the text, and echoed visually in every scene: the impossibility, not to speak of the evident absurdity, of any attempt to justify the ways of God to man. The burden is intentionally and powerfully blasphemous — there is little chance of *Die Erschöpfung* being produced in Oslo or Dublin, despite its libretto the script of *Monty Python's Life of Brian* reads as irreverently as Alison Uttley. But blasphemy, Kagel admits, "is an entirely alien concept to me, since I am not a Believer," and he suggests on the contrary that for the Believer his message must be doubly important, since "without scepticism there can be no real religious communication at all."

It seems, on the face of it, a surprisingly dark and serious theme for the arch-humourist, arch-Dadaist Kagel to choose to investigate. But the choice is not entirely unexpected. Since his earliest days in Germany,

from the chamber-music theatre-piece *Sur Scène* of 1959 onwards, Kagel has been an irrepressible iconoclast of Establishment mores, concerned like John Cage (with whom he has indirect but important affinities, as well as important differences) to free from its academic bonds "the acoustic process which is the essence of music," and like Marcel Duchamp to mock the pretensions and over-seriousness of the cultural elite. Religion, like high art, was an inevitable target.

Kagel has always delighted in searching for "correspondences" between apparently irreconcilable poles: between "humour" and "seriousness," "pure theatre" and "pure music," earth and air, hate and love, music and noise. In his *Exposition* for athletes, singers and instruments given in Paris two years ago, he noted that "there is only the lightest displacement of accent between the activities of the civilian sportsman and the soldier in training." In *Die Erschöpfung* there are many such secondary themes and observations. Some are deeply serious: the pity and the horror, for example, of man's ruthless contamination, physical, cultural and spiritual, of his world.

But another theme, which in its way underpins them all, and is perhaps the one which shows Kagel to be quintessentially more Jewish than German, is also fundamental: the redeeming notion that what is deeply sad can also be extremely funny. Kagel's note on his own *Dressage*, a sad, serious joke for a trio of warden percussion instruments written during the years he was composing *Die Erschöpfung*, applies equally well to the larger theatre-piece, substituting only the word "God" for "music": "Correspondences between the world of music and that of the circus reveal themselves quite often. Serious music above all with its avoidance of *flüchtige* (fleeting) artists, of all expressions of amusement, is a good example of the permanent and reciprocal *Dressage* — training — of composers, organisers, interpreters, and not least, the public itself."

Just as *Ex-position* was dedicated to the "impossible marriage between serious and popular music," so *Die Erschöpfung* illustrates, as Kagel's pantheon, the impossible marriage between God and Man. It is a tempestuous relationship and it ends in tragedy. But along the way even though the tragic denouement is a foregone conclusion — there is much

wild and extravagant amusement to be had: much irony to be poked; much surreal and spiky tenderness. God may be a sadist or a heartless gambler; but, more important, he is humourous. If there is any redemption to be found on earth, it is not through God, but by the spring of human fantasy; if there is any nourishment, it is not manna from heaven, but the food of sweet and bitter fancy.

It is Kagel's longest and most ambitious stage work to date — composed from 1974-78, commissioned by the Stuttgarter Staatstheater, and presented in seven performances this month and last in co-production with the Süddeutschen Rundfunk. The composer produced; Bernhard Kontarsky conducted. Instead of a programme-booklet, two large volumes running in all to nearly 350 pages (one of essays and notes, the other chiefly pictorial, both beautifully produced and on sale together at the remarkable price of only 99p) go to make up an elaborate commentary and exegesis which is an essential complement to the work.

Too essential, perhaps: without the books — and their commentaries, scene-titles, explanations — and without a libretto quickly to hand, *Die Erschöpfung* could be a colourful but confusing mystery. The text is Kagel's own: part Biblical in reference, part pure Kagelian confession. Every line is a word-play — but the technique is not of punning, rather a systematic fragmentation by phonemes, a phonetic word-play some times light and sparkling, sometimes heavy with Wagnerian alliteration. Kagel's word for it is "conceptual collage" — whose nearest English equivalent is perhaps the clever word-juggling of Sitwell rather than the many-layered punning of Joyce. There is much linking by rhyme: *Sachsel* juxtaposes *Tut Weh*, and there is much play with combinations — *Lug und Trug*, *Blut und Brot*, *Dick und dünn*, *Weit und breit*, *Hongen und bongen*. Sequences of words develop by free and by rhyming association: *Mein Herr, Ein Herr, Einer, Zwei, Drei, Vier, Fünf, Sechse, Sieben, Acht, Neun, Zehn, Elf, Zwölf, Dreizehn, Vierzehn, Fünfzehn, Sechzehn, Siebzehn, Achtzehn, Neunzehn, Zwanzig*. But only from the libretto could we learn that the scene of lamentation, a permutation of every conceivable form of the word *weinen* (to cry), was entitled "K(rieg)elieder."

In this complex web of word-music the sung and instrumental "music" takes second place. More words are spoken

than sung; a small ensemble of five players, augmented by a large "boogie-made" percussion battery and at certain key-points by pre-recorded tape, do not introduce or propose new material so much as underline or punctuate the text. Sometimes there are hints of recurrent motifs; a little violin theme, for example, which appears with every mention of the word "flesh" or "courtesan" binds together the scene called "Appetite and Faith." But the musical role is fragmentary: sudden, strident snatches of melody; dark, plaintive ostinati. And even the spoken words, powerfully delivered as they are, seem no more than incidental decoration, pretty wallpaper, to the principal and very splendid effect of the theatrical scene.

Visually, much of *Die Erschöpfung* is stunning. Kagel does not, indeed, call the work an opera, but subtitles it "Scenic Illusion." In one act and 11 scenes, lasting two hours without an interval, it is the sequence of tableaux, designed by the composer with Helmut Stürmer, and not the music, which grips the eye, not the ear. Kagel wastes no opportunity to indulge his taste for the outrageous, the whimsical, the exotic — or for the visual gag. But nothing is vulgarly or crudely managed: the scene in the Garden of Eden, where Adam (stark naked, wearing nothing but a wooden flute Eve (wearing nothing but a cowbell) meet and make music together is neither kitschy nor tasteless, but very funny and strangely touching. In God's Zoological Garden, music and circus meet with abandon; a seal with cymbals for flippers, a spider with whizzing springs for legs.

A large cast of six solo singers, six actors, two choirs for speaking and singing of 16 voices each, and a substantial *Bewegungsschor* of extra, all seemingly in ceaseless movement. In the final scene, as the huge and grotesque apparatus of God's Mining-Machine descends from the flies to chew up, then spit out, the broken arms, legs and heads of the waiting faithful, there is the first sustained and fully developed passage of music in the score: a mesh of soft, transparent sonorities, other-worldly beautiful. I wish there had been more. The nuance of the *Final* of the text, named from God's Loudspeaker high above the stage, was impossible to render into speech: *Amen?*

Lyric Studio, Hammersmith

Woyzeck

by MICHAEL COVENEY

John Lennon once thought, as indeed did John Osborne, that a working class hero was something to be. It was George Buchanan, however, early in the 19th century, who put the first working class tragic hero on the stage, and his fragmentary play of brief scenes and compressed energy remains a slippery little masterpiece even allowing for the absorption of naturalism and expressionism into the theatrical bloodstream. Although the text veers between the two styles, I have never seen the central physical and psychological picture of Woyzeck better portrayed than it is by Karl Johnson in Neil Johnston's production for the touring company, Poco Novo.

Woyzeck is a harbar in the army. He is poor. He therefore submits to medical experiments in order to earn money for Marie and their child. He has been on a diet of peas for three months. Noises come at him from all directions. He begins to shake. He is, from the outset, in a state of delirium. But even in that state he has a refined fatalistic sense of what to expect. "When we get to heaven they'll put us to work on the thunder," he mutters to the Captain as he tentatively abases him between military gestures from the chair.

The performance also conveys the sense of the piece as an ironic Darwinian tract in reverse. Although we are deprived of the barbaric side-show and the exhibition of Woyzeck in front of the students, the animal imagery is given full rein and the macho posturings of the *Drum Major* — "a real man," sighs Marie before being swept off her feet — serve as counterpoint to the decline of Woyzeck through a few evolutionary stages, having his ears wagged and defending his right to pass water at will. There are weaknesses. Jill

Richards hits entirely the wrong note of simmering confidentiality as Marie's friend; something should be done about the folk songs which are messy and not Hessian; the tavern scene is unnecessarily cramped on Alberto Ball's otherwise serviceable touring framework of platforms and wooden frames; the ending is muddled — Woyzeck does not disappear into the pond but gives his hand, not very confidently, to the doctor. An all-purpose Hyde Park character (Nigel Harris) out of Heathcote Williams via Ken Campbell, with an eye as authoritative as the Ancient Mariner's, confuses the barker and the showman (and, for good measure, the knife-supplying Jew). Gwyneth Strong is admirable as Marie, full of life and false hope. The text has been prepared by Peter Hulton and played for 90 minutes without interval.



Karl Johnson

St. John's, Smith Square

BBC Singers

by PAUL DRIVER

The paradox of unaccompanied choral singing is that the better the performance — and on Thursday the BBC Singers under Nicholas Cleobury gave consistently fine performances — the more individual qualities of the music tend to be consumed in anonymous splendour. Real, outstanding individuality in this style clearly takes a long time to achieve, but it was remarkable how five relatively unfamiliar twentieth-century English works by composers who don't have that much in common so easily fitted together. The gap between Bax and Sherlaw Johnson was comfortably bridged.

The Bar work, *Mater ora fletum* (1921), proved quite a discovery: a powerful study in rich arabesques that ascend by measured stages to an immense, elaborate climax. Though setting a simple English native carol (with Latin refrains), Bax draws the singers technically and expressively to their ecstatic limits. But Herbert Howells's similarly elaborate, though plainer, slightly harsher *Prudentius setting, Take hi meath, for cherishing* (1964) — a memorial for J. F. Kennedy — exposed the art of contrapuntal soaring as too readily rhetorical and cast a shadow over the Bax.

With Vaughan Williams's *Mass in G minor* of 1922 the problem of an objective, modally detectable, anachronistic English style presented itself. Despite its occasional trenchant anti-phonies and the eloquent interlocking of its last three sections, 3.357th and final performance this music shows that it is

possible for euphony itself to leave the listener thoroughly jaded. In his programme notes Richard Terry, who conducted the first performance, is reported to have found the Mass crucial to the development of modern music: "It is the work one has all along been waiting for." On reading that, a horrible vision of musical paralysis opened up. Supposing it had been the crucial work?

Certainly, Robert Sherlaw Johnson's blazingly mystical *Resurrection of Feng-Huang* (solo soprano, Sarah Leonard) was musically not too difficult to assimilate to a central choral tradition, for all that it may be inspired by Messiaen's *Cinq Rechants*. It was vigorous, as anyone from Herbert Howells himself, who — a spruce 88 — had come to hear his piece.) In the context, Britten's *Five Flower Songs* sprung forward as the simple product of genius. Who could ever forget or mistake, once heard, the silver melodious thread of "To Daffodils," or the last line of "The Evening Primrose": "It faints and withers and is gone" — set to a soft and rising arpeggio?

'Jesus Christ Superstar' to close in August

The Stigwood Group has announced that Jesus Christ Superstar is entering its last six months at the Palace Theatre, and will play its 3,357th and final performance on August 23.

GLC arts support for 1980/81 keeps pace with inflation

The Greater London Council is increasing its budget for grants to the arts during 1980 to 1981. Money to cultural bodies will total £3,700,000, an increase of £530,000 or 16.7 per cent over 1979 to 1980.

The four major performing arts organisations supported by the GLC — the English National Opera, the London Festival Ballet, the National Theatre and the London Orchestral Concerts Board — have their grants increased by an average of 16.2 per cent to keep pace with inflation. The Royal Opera House, which also receives £250,000 this year compared with £220,000 for 1979 to 1980.

The arts budget also includes £780,000 for grants to numerous

smaller cultural bodies compared with £830,000 last year, an increase of 20 per cent.

Mr. Freddie Wever, chairman of the arts committee, said: "In the present financial climate of severe restraint and spending cuts we have done our best to maintain our support for the arts. Last year we increased our arts budget by a substantial 34 per cent and this commitment has been maintained."

"We believe that the arts have a vital role not only in the quality of life in the nation's capital but in our ever more essential tourist trade. The international standing of our theatres and concert halls is not only a matter of prestige and pride but an important invisible export."

SOCCER

BY TREVOR BAILEY

Luton leave Second Division open

WITH ONLY two of the leading eight clubs managing to win on Saturday, the Second Division promotion stakes remain delightfully — and excitingly — open. Eight more fences remain for most of the competitors and it is still impossible to pick the first three with any confidence.

Much clearly depends upon the Easter programme, but certainly this season no team has been able to take the championship by the scruff of the neck and claim it, largely because of the high standard of competence throughout the League.

This helps to explain why West Ham, who could well reach the FA Cup final by beating Everton, lost to foot-of-the-table Fulham, and Birmingham, who are superior to at least seven current first division sides, went down to the inflexible, sparsely supported, but extremely efficient Cambridge United.

The uncertainty at the top of the second division was exemplified by the 2-2 draw of two well-placed contenders, Queen's Park Rangers and Luton Town at Shepherd's Bush. Rangers, after a hurried January, had been undefeated in their last six matches, picking up nine points in the process, whereas Luton, who are short of reserve cover, were on

this occasion without two key defenders and their leading goalscorer and had been experiencing a lean spell which brought them only two points out of the last 10.

Everything indicated a comfortable victory for the home team, a view which was reinforced when Rangers took the lead in the second minute with a well taken goal by Goddard from a left-wing cross. They went further ahead when once again Goddard was in the right place at the right time, although by their 2-0 lead at half-time, as he spasmodic with periods of mediocrity and moments of brilliance. Allen, who forms such a lively spearhead with Goddard, nearly scored twice, while his partner might have completed his hat-trick.

The second half belonged entirely to the visitors, who supplied most of the moves, nearly all the pressure, and two goals. Both came after Pearson, an inexperienced 19-year-old left-winger, had been brought on for White, who had proved so ineffective. It was hard to believe he had cost £175,000 earlier in the season. This switch allowed the purposeful

Stein to attack the centre of the Rangers' defence. He not only forced errors, but also scored with a copybook header from a left-wing centre.

Although the equaliser by Hill, another whole-hearted competitor, was the outcome of a mistake by the keeper, the visitors more than deserved their point. They combined well, hit both the bar and the post, and displayed considerable character to come from behind with a makeshift team.

If Luton do go up, above-average team spirit will have played a vital part, because purely in terms of ability there must be some doubts as to whether they can establish themselves in the First Division. Although they are still improving, under David Pleat and have acquired considerable style, they are probably not yet ready to join the elite and, a day, it must be admitted that their home gates do not justify it.

After the match Tommy Docherty complained some of his players were not good enough; yet individually they were superior to Luton and he certainly has the nucleus of a First Division side. This is hardly surprising when it is remembered that he has spent more than £1m on the transfer market since last May.

It is less certain that all his team have that total commitment which is likely to be just as vital as skill. If not more so, in the final run-in. This could well hinge on factors like whether the talented Currie can adapt more to the foibles of his less able colleagues, whether a team with two genuine poachers can afford the luxury of a left winger who appears to have no other duties, whether a strong and enthusiastic rearguard possess the tactical expertise to work as a unit, and whether Allen and Goddard can continue to produce goals — because, apart from set pieces, it was difficult to see where else they will come from.

Although both QPR and Luton can gain promotion, the First Division itself must surely prefer to welcome back Birmingham, West Ham, Chelsea, Sunderland or Newcastle, because they all can guarantee the home support which makes visiting them a viable financial proposition.

My own selections would be Birmingham, for my money the best balanced team in the division, Chelsea, as they have the points and the passion and the enthusiasm of youth, and one from Leicester, Luton or QPR, but my heart cries out for a representative from Tyndeside

RUGBY UNION

BY PETER ROBBINS

The crowning Grand Slam glory

THE ENGLAND players, officials and supporters have enjoyed their week of Grand Slam euphoria crowned as it has been by the logical selection of Billy Bevan to captain the Lions in South Africa this summer. I wrote some while ago on the anatomy of a successful club and it is now interesting to examine the factors common to the two Grand Slam teams of 1957 and this last one.

It is said that one should not compare any two men who are not contemporaries. Rugby has changed its laws dramatically, not to mention its attitudes to coaching and preparation for the big matches. One factor common to both the successful eras was the firmness of selection coupled with the quick learning of mistakes.

This season England were extremely fortunate in having two warm-up games against Argentina and New Zealand. These games showed both good and bad sides of the team.

The final trial was an utter shambles, but there was one key selection, that of Blakeway over McGregor, in the front row. Then there was the great bonus that Cotton and Utley were available and free from injury. Neary maintained an

extraordinary level of performance and these three, with Beaumont, had of course been the core of the North team that beat the All Blacks.

So, the selection of the pack was right and it must have given Sandy Sanders, the previous chairman of selectors, quiet satisfaction to see some of his hard work reaching a successful conclusion. The same stability was obtained in 1957 when the pack remained unchanged and only 17 players were used in the whole campaign. These days, of course, there are coaches, and while Mike Davis properly takes much credit, his predecessors also had a hand in this long awaited success.

Beaumont's leadership, by example, was rivalled by his fellow Lancastrian of '57, Eric Evans. Evans was certainly more extrovert, but in each case the men who played under them respected them for what they did rather than said. It has been quite clear that the morale of this season's England side has been at an all-time high and one has seen a sense of belonging, dignity and pride in playing which has been fostered by Beaumont as it was by Evans in his day.

The forwards have shown the same loyalty and closing of

ranks that members of a family demonstrate when the group is threatened by outsiders. Rugby is meant to be a team game and this year's men have given full meaning to that word, on and off the field.

It was fairly easy to see the emergence of a good pack and once Colclough had replaced Horton in the second row the next consideration was how to make use of possession. Smith certainly had his traumas against Wales, but I believe the suppression of his own natural game and the evident increase in his personal courage were great factors in England's ultimate success.

Jeeps' toughness had been equally valuable in '57 but the real bonus to England this year was Horton's increased confidence at half-half after the disastrous experiment of playing Jeeps against New Zealand. Yes, there was fallibility at half-back, but both Smith and Horton made valuable contributions at crucial times and were an important hinge in the team. The fullback position was also an area of doubt and although Hare terrified us on occasions when running across the field to the diagonal kicks, the fact remained that he kicked goals when they were most needed. His final kick in injury time

against Wales was remarkable for its calmness and all intents and purposes won the Grand Slam for England.

It was assumed, probably correctly because of public evidence, that the team had limited attacking ability. They restricted themselves in attack so as to start winning and eliminating risks. It was odd that chance, that great collaborator, played its part in producing the most expansive game that England ever played at Murrayfield.

The accident to Bond in the first international brought on Woodward, and Preston's subsequent injury meant that Dodge partnered Woodward, his debatable. Woodward's personal contribution to the Calcutta Cup cannot be underestimated and it was good to see England being forced to counteract Scotland's daring running, rather than defensive kicking. In doing so they revealed a talent that had only been suspected.

The grand slam was and is the ultimate reward for the players' dedication and leadership — many people. The current players and their predecessors know only too well how fine the line is between failure and success at international level. Each year that line seems to get even finer.

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Monday March 24 1980

The fear of competition

AS THE World economy slows down, fear of Japanese competition in Western Europe and North America is again emerging as one of the main threats to the free trading system. Especially disturbing is the spread of protectionist attitudes to industries which have traditionally been strong supporters of free trade and indeed have depended on it. The motor industry is the outstanding example. In the U.S. the domestic manufacturers have laid off thousands of employees at a time when Japanese cars are continuing to pour into the country. So far, the Carter Administration has rejected trade union proposals that imports should be restricted unless and until Japanese manufacturers build plants in the U.S., but demands for action are growing. In Europe there are already formal or informal curbs on Japanese cars in the U.K., France, Italy and Spain. With Japanese penetration rising in West Germany and other countries, pressure for controls at the EEC level is gaining ground.

Investment

The anxiety among European manufacturers is that the Japanese are investing in new capacity for which Western Europe will be one of the main outlets. Thus the Japanese may cream off what little growth there is in the European market, at a time when export opportunities for European manufacturers, in North America and the developing countries, are diminishing.

The logical response to these fears on the part of the Japanese is to invest in European manufacturing facilities, just as they have already done to some extent in TV sets. But the domestic industry seems to be no less hostile to the prospect of Japanese cars being manufactured within Europe. Fiat in Italy is doing its utmost to block an arrangement between Nissan and Alfa Romeo, while the French are believed to take an extremely hostile view both of the BL-Honda licensing agreement and of the Nissan investment in Motor Iberica, a Spanish commercial vehicle company.

It is true that initially the Honda deal with BL involved only assembly with engines and other major components imported from Japan. But the Japanese have got to start somewhere and there is a fair

chance that assembly will lead to manufacture.

If the investments take the form of co-operative ventures with established manufacturers, the risk of adding to overcapacity will be reduced. Moreover, links with Japan are a way of giving the weaker European companies access to economies of scale which are already enjoyed by the big-volume producers, such as Ford, General Motors, Fiat, Renault and PSA Peugeot-Citroen. Perhaps the big European companies would prefer their smaller rivals either to disappear or to become their own satellites. But it is in the interests of consumers that there should be strong competition among a number of companies.

It is politically as well as economically necessary that Japan should be fully integrated with the rest of the industrial world, not treated as an alien culture to which normal trading rules do not apply. In the motor industry, Japan has much to contribute in know-how and production efficiency, as the leading U.S. companies recognised when they decided to invest directly in Japanese car manufacturers. These companies are using their Japanese affiliates to supply them with vehicles and components for use in the U.S. and to some extent in Europe. Vauxhall, the General Motors subsidiary, will shortly start importing pick-up trucks into the UK from Isuzu, GM's Japanese affiliate. If these investments make sense, the same applies to Japanese investments in the reverse direction.

Integrated

The danger is that opposition from domestic producers, allied to protectionist attitudes, will make the Japanese even more reluctant to manufacture their vehicles in Europe. There is no doubt that to do so will involve a loss of efficiency, because it will disrupt their highly integrated supply and manufacturing system. But the Japanese have to recognise that the next year or two could be decisive for their position in world markets. Their overseas policies have to be tempered by an awareness of political realities. This means not only prudent levels, but also investment in overseas manufacture rather than strictly commercial considerations would dictate.

Blunt axe for Civil Service

LIKE A HYDRA with 700,000 heads, the Civil Service proliferates even as it is being dismembered. Soon after the Conservatives came to power the Prime Minister instructed her Cabinet to prepare three sets of contingency plans for cutting back central government bureaucracy and spending.

She perceived, rightly, that some civil servants have a tendency to give primacy to the protection of their colleagues' jobs, rather than of the standard of service offered to the public, in their responses to expenditure cuts. Accordingly, Mrs. Thatcher told her Ministers to concentrate directly on manpower cuts and to come forward with options for 10, 15 and 20 per cent manning reductions.

The first fruits of these exercises emerged last December, when Lord Soames announced plans to cut Civil Service employment by 39,000 over the next four years. Combined with the effects of a three-month ban on recruitment, these measures were expected eventually to produce a drop of 60,000, or 8.1 per cent, in the number of civil servants.

Confounding

Presented as only "the savings which it was possible to identify reasonably quickly," Lord Soames's cuts looked like a big stride towards the least ambitious of Mrs. Thatcher's targets. "The search for greater efficiency and economy will go on," Lord Soames assured Parliament at the time, "and the general trend in the size of the Civil Service from now on will be downwards."

At first sight, the recent announcement that at least 15,000 Civil Service jobs would disappear by April 1981, as a result of the imposition of tight cash limits, seemed to confound the cynics. The cash limits will allow for an increase of only 14 per cent in the Civil Service pay bill during 1980-81. Since civil servants are certain to be awarded pay rises substantially above this level, the Government has assumed that the

extra cash will have to be found by imposing a 2.5 per cent reduction in manning. But this measure was not accompanied by a triumphant announcement that policy was now on target for the 10 per cent manpower reduction, which Mrs. Thatcher had sought.

The reason for this surprising omission emerged last Wednesday, when the Civil Service Department produced figures which showed that, before the 2.5 per cent cut, civil service numbers were due to rise to 715,000 by April 1981. Figures accompanying the Soames cuts last December had implied that employment was due to fall to less than 700,000, by this date.

Thus it seems that during the past three months of what one minister has called "unparalleled austerity," an extra 15,000 jobs have been planned by departmental administrators. It appears to be these new, and as yet non-existent, jobs which will be cut back as a result of the cash limits squeeze.

There are, of course, good reasons why certain departments have been planning for substantial staff increases over the coming year. The Social Security and Employment Departments are expected to take on an extra 7,000 staff between them, as a result of revised assumptions about the rate of unemployment and of the Government's campaign against "scroungers."

Law, order and immigration services, which have been exempted from cuts will grow by 3,300.

All the evidence available so far suggests that the Government has been far less successful than it had hoped in imposing a really stringent regime on Civil Service manpower. In particular, it is a cause for concern that increasing reliance is being placed on hunkered, unplanned manpower reductions achieved by cash limits squeezes and generational recruitment bans.

Ultimately, greater efficiency in the Civil Service is most likely to be achieved by devising better measures of output and productivity than the traditional ones, which equate the number of civil servants employed, with the level of service to the public.

A NEW twist has been written into the script of world currency markets: the leading characters have switched roles.

With U.S. interest rates at record levels and the dollar in top gear after President Carter's anti-inflation package, the U.S. authorities have wrestled back the monetary initiative held for so long by the "hard currency" countries.

For years, West Germany and Switzerland, in particular, have grappled with the problems of an over-strong currency and a weak dollar. But now they are dancing uncomfortably to the austere interest rate tune being played in Washington, and central bankers around the rest of the world have to pay attention to the advice so often handed out to the U.S. over the past three years: how to escape from the vicious circle of exchange rate depreciation and imported inflation.

The tables could hardly have been more completely turned. At the peak of the dollar crisis 18 months ago, Germany, Switzerland and Japan were doing all they could to shut out hot money inflows, and were buying dollars by the billion to brake the appreciation of their currencies.

Bundesbank U-turn

Yet over the past month, with sustained upward pressure on the dollar stronger than at any time since 1975, all three countries have frantically raised interest rates and swept away barriers to capital inflows, and their dollar sales to support their own currencies have totalled at least \$50n to \$70n—one of the most intensive bouts of official intervention since generalised floating rates started in March 1973.

As recently as last autumn, Mr. Henry Reuss of the House Banking Committee was voicing the feelings of many Americans in complaining that the Bundesbank's firm interest rate policies were driving the U.S. into recession. Now it is Herr Karl Otto Poehl, the president of the Bundesbank, who is saying publicly (as he did in a speech in Stuttgart 10 days ago) that the international interest rate escalation could cause severe problems for the world economy.

A year ago, the Bundesbank was spreading doom-laden warnings about the "over-tightening" of international liquidity, and adding its voice to calls for curbs on the Euromarket. That campaign has been stilled now that the Federal Republic, after more than a decade of surpluses, is running a substantial current account deficit—which the Bundesbank intends to finance, like everyone else, by foreign borrowing.

Most significant of all, however, has been the U-turn on the vexed question of reserve currency diversification. Germany, Switzerland and Japan have spent years of effort trying to prevent the Deutsche Mark,

Swiss franc and yen growing in importance as international reserve assets. But now all three are encouraging foreign central banks and other monetary institutions—particularly among the oil exporting countries—to step up investment in their banking and securities markets as a way of shoring up their currencies.

In Germany, the about-turn has been demonstrated most vividly by the Finance Ministry's efforts to place large amounts of D-mark denominated government bonds with Saudi Arabia. Japan is also encouraging both the public and the private sector to raise yen finance from OPEC, while the Swiss National Bank is openly encouraging foreign central banks to take advantage of the new high rates of Swiss franc deposits.

Net reserve diversification out of dollars has of course come to halt for the moment as international funds flow into the U.S. currency. But the longer-term effect of deliberate official action to boost the reserve value of the D-mark, Swiss franc and yen can only be to launch the world further along the path towards a multiple currency reserve system, in which the dollar shares its international burden more equitably with other leading currencies.

The reality of the D-mark's fully fledged use as a reserve currency will become more apparent if the U.S. continues its present modest intervention to support the D-mark by selling dollars on the foreign exchange markets over the next few months. That would result in the U.S. Treasury building up its stock of owned rather than merely borrowed D-mark reserves—a course which some central bankers say it may be moving towards as a deliberate act of policy.

The change of attitude on reserve currencies could also become clearer when leading finance ministers meet next month in Hamburg to debate further the setting up of the International Monetary Fund's proposed substitution account. The scheme aims to accommodate diversification pressure into "alternative" reserve currencies like the D-mark by boosting the importance in world reserves of the Special Drawing Right. But it may now be in nobody's interest to proceed too rapidly with the proposal.

In perverse contrast to 1973, the story of the foreign exchange over the past few weeks has been that money has flowed out of the low-inflation into the high-inflation currencies. This explains the fright of the hard money central bankers. They were able to profit handsomely in the fight against inflation in 1977/78, when their currencies were rapidly appreciating and import prices falling. Now they fear that the process will go into reverse, with currency depreciation, combined with large increases in prices of oil and raw materials, bringing down on their heads more than their fair share of the world's inflation.

MEN AND MATTERS

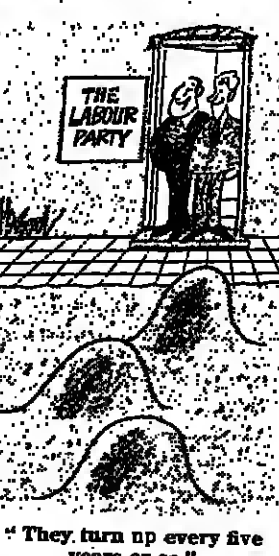
Phone-booksleuth with good news

Armed with a handful of outdated addresses and access to Directory Enquiries, Alex Miller is engaged in one of his more outlandish missions. Having paid his own air fare from New York ("I fly Laker on principle—I approve of the man"), Miller has been attempting to contact an estimated 600 British shareholders of a company called Shanghai Power, which was nationalised in 1949. The Chinese—in dire need of good trade relations with the West—are now prepared to pay compensation of \$20m, of which \$6m is being made available to the shareholders (many of them Chinese) if they can be found. The deal is part of a far larger action in which nearly 400 U.S. companies and individuals have succeeded in wresting \$80m compensation from the People's Republic.

In the case of Shanghai Power, the issue has become extremely complicated, in part because its new owners, a forestry group called Boise Cascade, entered a thicket of litigation when it tried to have the stock it did not own declared worthless. According to Miller, "five different law firms have been having a bonanza: so far we've shared \$1.2m. I'm confused about who is paying all the bills."

President of the New York Shareholder Communications Corporation, Miller seems confused too about who will be paying his bill, which he hopes will amount to \$3 for every share he can discover. If his proposal is accepted, he thinks the court will probably direct that funds are made available. "Somebody will pay for it—I hope somebody will pay for it."

That will, however, depend on his showing he can unearth respectable number of shareholders by the May 27 deadline. So far, he told me yesterday, he has found five British shareholders, one a Lt. Col. F.



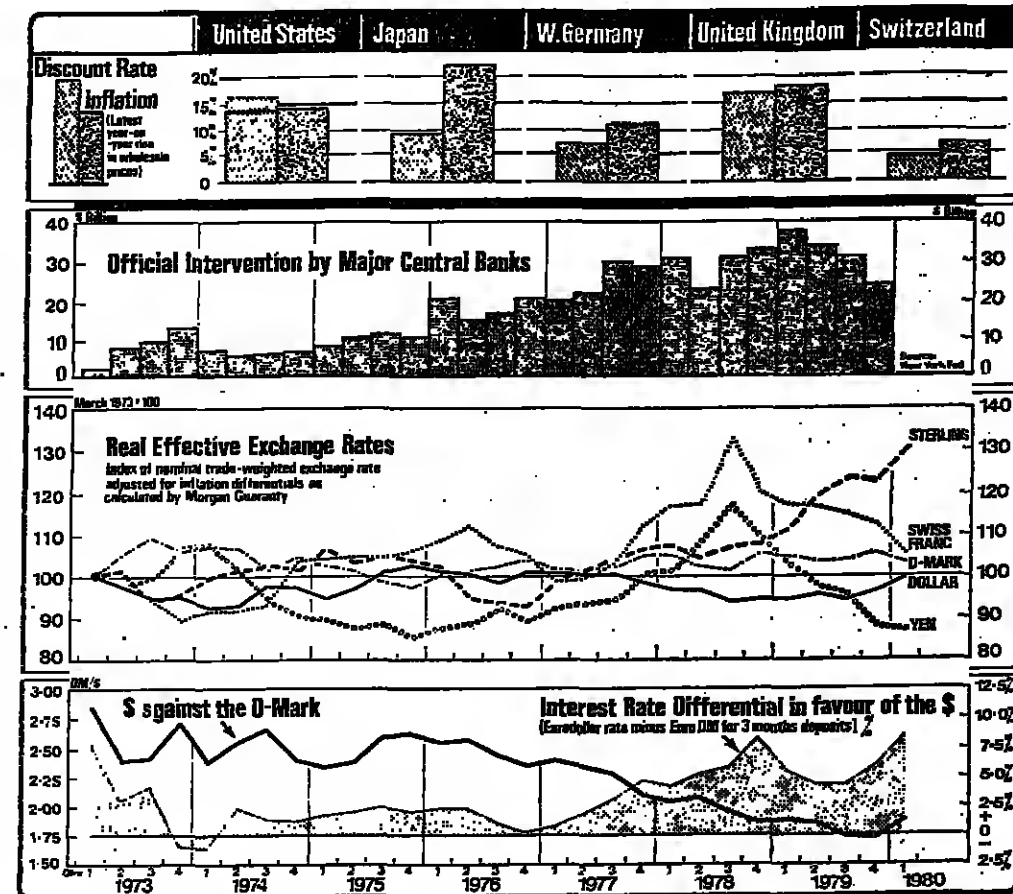
"They turn up every five years or so."

Clutterbuck. He had since 1949 become a Major-General, but was still at his old address at Hornby Castle, Bedale. "He got a formal notice, but threw it away. He didn't recall owning any stock," says Miller. Another old lady told him down the telephone that she could not hear him, and would be pleased mind ringing her friend Mrs. Forsyth, who was not so deaf?

Peerless pier

The public inquiry into the future of Clevedon Pier begins today without the pier's most formidable admirer, Sir John Betjeman. Now 73, he is in ailing health and unable to face the stylised slugging match promised over a structure he once described as being "as delicate as a Japanese print." However, the old campaigner has sent in a tape-recorded plea for preserving what is less poetically termed, a Grade II (starred) listed structure from demolition.

Betjeman's concern for the pier, and for the sleepy Victorian resort from which it juts out into the Bristol



A build-up of such imported inflationary pressures is the price of the relative foreign exchange stability to which the world has lived since the dollar support measures of November 1, 1973, and the setting up of the European Monetary System a year ago. During the last 18 months, even allowing for the sharp movements of the "maverick" currencies, sterling and the yen, overall fluctuations between the major currencies have been as small as during any comparable period since the beginning of floating.

At a time when inflation rates internationally have been diverging quite sharply, exchange rate stability in nominal terms has disguised wider movements in real terms—that is, when currency movements are adjusted for the differences in wholesale price levels between different countries. This is made clear by the chart above, which plots Morgan Guaranty's indices for the inflation-adjusted trade-weighted values of the five main currencies over the last seven years.

This year alone, the Swiss franc has lost ground by more than 6 per cent in real terms against a trade-weighted basket of currencies. The yen, which of course started far earlier to weaken significantly from its 1973 highs, has fallen by about 10 per cent over the last nine months. The Deutsche Mark's depreciation in real terms since the end of 1973 has been a more modest 2 per cent. And the dollar's 3.5 per cent appreciation this year has taken it back to real terms, very nearly to the level where it started in March 1973.

The real trade-weighted indices provide the best measure of the considerable increase in German, Swiss and Japanese export competitiveness over the past few months. But it has been the decline of their currencies against the dollar—in which oil and most raw materials are priced—that has been the chief source of worry in all three countries. This has been the main factor behind the remarkable increases in import prices, now running at 73 per cent, 39 per cent and 26 per cent respectively above year-ago levels in Japan, Switzerland and Germany. Such acceleration is enough to raise fears that the trio's still relatively favourable rates of consumer price inflation of around 4 to 7 per cent will increase further in coming months, especially as wholesale prices indicate a certain amount of inflation is still in the pipeline.

Fear of a further twist to inflation makes all three countries very reluctant to fall too far behind in the interest rate competition with the U.S. Japan has already moved, raising its discount rate last week—for the fifth time within 12 months—to 9 per cent to back up the yen support package announced at the beginning of March. The opinion of one leading European central banker is that both the German and Swiss central banks face severe political pressure within their countries to tighten now that their interest rates are already historically high in real terms.

"If it becomes clear, he says, 'that the U.S. action really does precipitate the long-awaited recession—which would imply tower U.S. interest rates

before long as well as a slow-down in commodity price rises—then the Germans and Swiss will live with a weaker currency for a while. But if they feel that the recession is still not on the way, then there will be no alternative to higher rates in these two countries too."

With the dollar weakening slightly towards the end of last week from its highs reached last Monday against the Deutsche Mark and Swiss franc, there may be no immediate need for further interest rate action in Europe.

But now that President Carter has allowed the U.S. prime rate to rise by nearly four percentage points in the first three months of an election year, the Bonn Government, which also faces a test at the polls this autumn, may be less embarrassed by a stern monetary defence of the D-mark on the part of the Bundesbank.

Some Swiss bankers are saying that a "cold war premium" on interest rates in Germany and Switzerland may now be necessary to attract back later national funds withdrawn from both countries in the wake of revived East-West tension over Afghanistan.

Certainly, one country in Europe already appears to be expecting still tighter interest rates. Belgium, whose currency is languishing at the foot of the European Monetary System, pushed up its discount rate by a further two points last week to a record 14 per cent—a full 8 percentage points above its inflation rate.

Rising U.S. interest rates and the dollar's show of strength have created considerable need for re-appraisal in a series of

other areas preoccupying central banks and finance ministries.

The desire of the Bundesbank and the Federal Reserve to clamp down on Euromarket borrowing has ebbed away with the realisation that international bank lending is already slowing down rapidly as a result of soaring Eurodollar rates. A sure sign that this year will be a tough one for Third World borrowers is that western central bankers, while doing their best to stock up their own healthy monetary positions by borrowing from OPEC, are solemnly predicting that developing countries will have to weather their oil deficits by tightening belts and running down their reserves.

The financially-strained predicament of even the large reserve holders among the non-oil developing countries will make them highly reluctant to participate widely in the IMF's substitution account. Rather than purchasing the SDR-denominated bonds which the Fund proposes to launch as alternative reserve assets, these central banks will prefer—at the moment at least—to stay in high-yielding, liquid dollars.

Adventurous scheme

The substitution account may also receive a setback for another reason. Over the past two years the proposal has received support from the U.S. as a means of taking downward pressure off the dollar, and from Germany as a way of facilitating diversification flows from the D-mark. Now that the dollar has recovered, and Germany appears to favour just the sort of long term diversification flows into the D-mark that the account was intended to deflect, neither country may be so enthusiastic about the idea in Hamburg.

An even more adventurous reform scheme, this time from the French, may also be a casualty of the dollar's newfound strength. As a main component of his mystery-shrouded plan for world monetary reform, to be presented at the industrialised country summit in Venice in June, President Giscard has apparently been considering a scheme to stabilise the dollar, the yen and the EMS currencies within formal "target zones."

The dollar's rise of more than 5 per cent against the currency benchmark of the EMS, the European Currency Unit, over the past three weeks—in spite of extremely heavy central bank intervention—shows how easily even generously-set limits could be broken through.

A greater commitment to managed exchange rates by the major countries may have brought back a degree of order to the exchange market over the past 18 months. But a return to any formalised limit between the dollar and the other leading currencies will surely have to wait until the world is economically and politically a more stable place.

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Observer

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Monday March 24 1980

هكذا من الأعمال

VIEWDATA

This week, Britain launches the first public viewdata system in the world. With Prestel, the Post Office has opened wide export opportunities and is working to exploit its advantage in the market place by forging a unique alliance with computer companies, publishers and television manufacturers.

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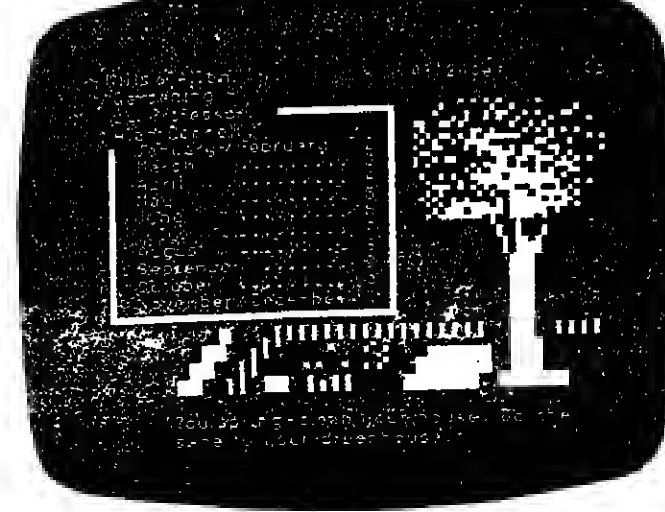
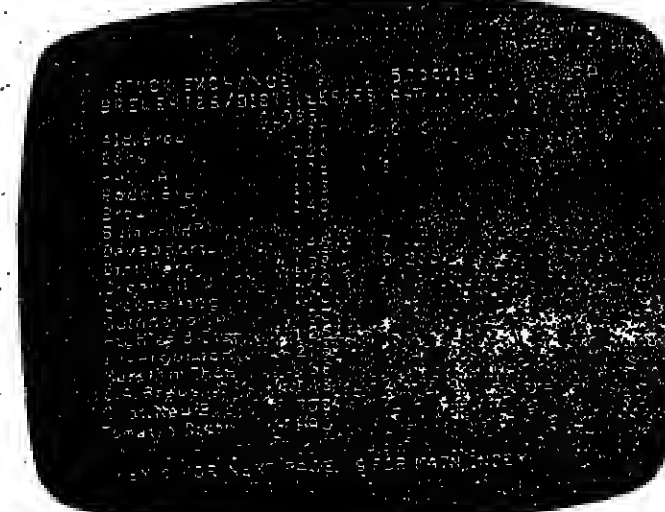
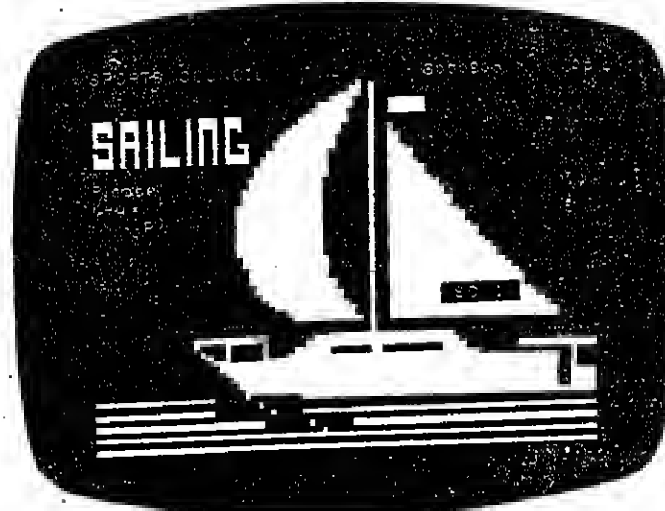
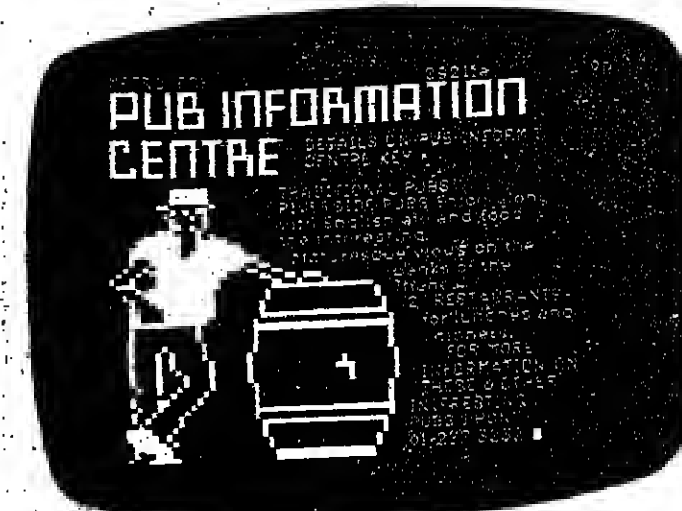
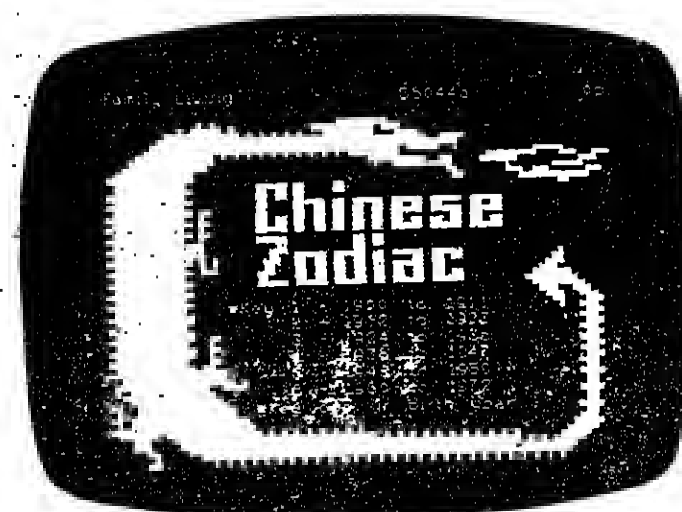
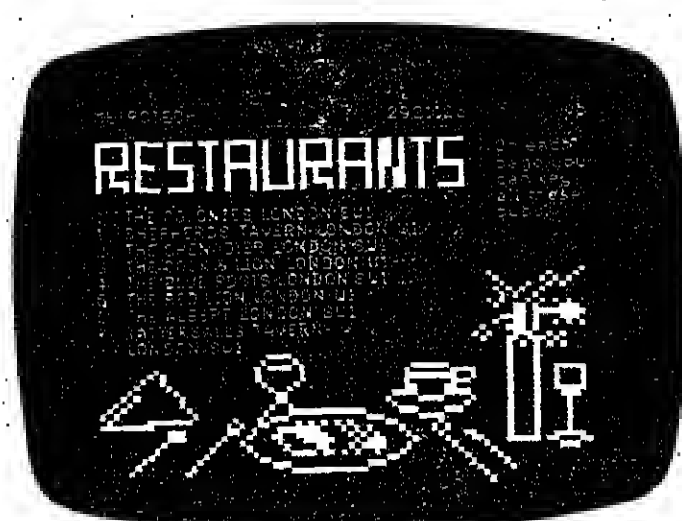
There are over 150,000 pages of information on Prestel, the Post Office viewdata service, which are constantly being updated and added to.

To receive all this information (and your regular TV programmes) you will need a special Prestel TV set, which is available from major TV rental or retail outlets. This is installed in your home or office and connected through your telephone line to a central computer.

Prestel is available today in London, Birmingham, Nottingham, Edinburgh and Glasgow; and is spreading fast to other parts of the country.

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VIEWDATA II



GLOSSARY

ELECTRONIC technology is developing so fast that the poor old spoken word has a hard time keeping up. The layman struggling to understand what is going on must grapple not only with a multitude of acronyms but also with the fact that the terms used to describe similar products and processes differ from company to company and from country to country. This glossary attempts to dispel some of the confusion:

VIEWDATA: The generic name used in Britain to describe systems for transmitting information stored in a computerised data base across public telephone lines and displaying it on a television screen at the command of the user.

VIDEOTEX: The accepted international term used to describe systems of this type.

PRESTEL: The name chosen by the British Post Office for its service after its application to patent the name Viewdata was rejected.

TELETEXT: A method of transmitting "frames" of information using television broadcast transmissions. Teletext is a one-way system

which does not allow the user to send commands back. Frames are displayed in a fixed sequence, and capacity is limited to about 1,000 frames.

TELETEXT: A technique for transmitting text between terminals, including word-processors. Has no connection with Teletext.

CEEFAX AND ORACLE (Optional Reception of Announcements by Coded Line Electronics): Teletext services transmitted by the BBC and ITV respectively in Britain.

ANTIOPE (Acquisition Numerique et Televisualisation d'Images Organisees en Pages d'Ecriture): The French teletext system.

Names of the main videotex systems under development or operating in different countries:

CANADA: Telidon, Vista.

FINLAND: Teletel.

FRANCE: Teletel.

GERMANY: Bildschirmtext.

JAPAN: CAPTAINS (Character and Pattern Telephone Access Information System).

SWEDEN: Datavision.

Britain has world's first public system

THIS WEEK, Prestel leaves its childhood and enters the adult world. After about two years of technical and market trials and perhaps five years of active planning, not to mention two rehearsal first nights, Prestel is finally being launched with a massive advertising campaign and an international exhibition, the Viewdata 80 Show from Wednesday to Friday at Wembley. This then is where the fun and games finally stop and the stern tests of commercial viability and public acceptance are faced.

But the most significant thing is surely also the simplest. Britain has managed to launch the first public viewdata system in the world. Although by no means the only country where viewdata is being developed, Britain has established a world lead that offers significant commercial opportunities both nationally and internationally. This, in itself, is no mean achievement.

In devising and launching Prestel, the Post Office has in effect created a new industry with new combinations of partners (and competitors), and has stirred up viewdata activity among overseas post and telecommunications authorities, known as PTTs, in emulation. Whatever else you may say about the British Post Office—an organisation not without critics—it has in this area acted as instigator and catalyst for what could well be a major innovation in the world's pattern of communications.

By linking the ordinary television set (with certain modifi-

cations) to the ordinary telephone network, and by that means to a central computer store of information, the P.O. has opened up the prospect of the first truly low cost, mass market computerised information retrieval system. Though not the only version of viewdata, this prospect has excited people in many countries and many industries, and brought together a hitherto unique alliance of Post Office, computer companies, television set manufacturers and rental organisations, and publishers or other companies with information to provide.

Terminology

It is perhaps unfortunate that this has been obscured by the difficulty of arriving at a standard terminology to describe it.

This confusion of names has certainly baffled the British public, which has so far shown little general ability to distinguish between the various services. One aim of this week's advertising campaign is to impress the name of Prestel firmly and accurately in the public's mind.

With the advertising launch, comes the acid test—to the Post Office, to TV set suppliers, to information providers (as publishers on Prestel are called). All three parties have to pass the test for Prestel to work.

For the Post Office, the test is whether it can successfully market new services that add value to the basic telecommunications network. It is an article

of Post Office policy that it must develop new services of this type, in part to make up for declining employment in more traditional areas like telephone exchanges. With the penetration of telephones reaching high, if not exactly saturation, levels, and with structural reorganisation of the Post Office in the offing, there is every incentive for the Post Office to show that it can take the initiative in the rapidly changing world of communications. Significantly, in this context, Dr. Alex Reid, who has for several years headed the Prestel project, is now moving on to develop a range of new business information systems for the Post Office, and is succeeded as Director of Prestel by Mr. Richard Hooper, formerly managing director of Mills and Allen Communications.

For the TV set makers, the test is whether they, in conjunction with the all-important manufacturers of the "chips" that provide the extra electronics that supplement the normal TV set to make it into a teletext-viewdata receiver, can actually deliver, and deliver at a price the public can and will afford. There have been well publicised problems over set supply, which have in part accounted for the delay in launching Prestel. There have been technical problems, especially over the chips, and marketing problems—Prestel really going to be a sufficient success to warrant large scale investment in production capacity?

For the information providers,

who under the Post Office "common carrier" policy can put on to Prestel whatever they like within the law of the land, the test is whether they have guessed with even approximate accuracy what the public will actually use Prestel for. In the end, Prestel is an information system, and without the right information, whatever that is, the whole thing collapses.

Another test is whether Prestel will be for business use or domestic use. By its very nature, viewdata bears all the hallmarks of a mass market medium and PTTs all over the world see it in that light. So also do television set manufacturers, who think in millions of not at all. It is the potential for mass use that is, in the end, the most distinctive feature of viewdata.

Expensive

On the other hand, viewdata is at first sight expensive for the ordinary household, at least at this stage of its development. The rental on a Prestel set is about twice that on a normal colour TV, and then there are the telephone, Prestel computer access and information charges to pay on top of that. There are many who feel that the mass market for Prestel may be five to 15 years away. To some extent it depends on what you define as a mass market—as it 300,000, a high figure in anything but TV set terms, or is it 5m or higher?

The early signs are that business will take up viewdata

first. Cost is much less of a factor and business is more conscious of developments in communications. There are those who say that the whole marketing effort should initially go towards business, there are those who say that this would get Prestel off on the wrong foot, with disastrous long-term results. The middle line is that business will be the scene of the initial take-off of Prestel, opening the way to mass use later.

There are, it must be added, those who think that the whole idea is a non-starter anyway. Prestel was recently compared to someone who had invented a square ball, built a stadium round it, and then tried to invent a game to play. In more serious terms, Prestel has been called a technology still looking for a use, and this in itself defines the challenge facing the partners to its development.

For Prestel is already old enough to have had its casualties—organisations who found, as it were, that they had a square ball and not a round one. Of the drop-outs (as far as one can tell) one was worried by the relative lack of security of data held for private use on Prestel; one was the victim of a change of management; one found itself incurring unacceptable levels of cost at this early stage; one—which can be named as GKN since it has described its problem at a public conference—found that Prestel was, though efficient, not cost-effective compared to other means of storing and distribu-

ting information about its stocks and stock availability.

There are also interesting cases of public and private sources putting on to Prestel similar or identical information. This raises questions about pricing, since the public sources may well not charge the user, while the private publisher has to charge to make a living. The role of advertising is another matter still to be tested in practice, although a number of possible advertising applications have been demonstrated, such as classified advertisements, corporate advertisements and so-called "adflashes" of the short slogan type.

Reputations

In short, Prestel is in the middle of—indeed may only be at the beginning of—a long learning process about itself and its public. As a narrow if colourful window on a large world (the screen is only 22 lines deep and 40 characters across, in seven colours, but with about 150,000 screenfuls of information on the computer at the moment) Prestel has a lot of money and expectations, not to mention many reputations, riding on it. Being first away from the starting gate has a thrill, and a danger, all its own.

Rex Winsbury

Rex Winsbury is Viewdata Director of Fintel, a joint subsidiary of the Financial Times and Etsel specialising in Viewdata and other electronic publishing.

Post Office exploits its international lead

THE BRITISH Post Office, often cruelly lampooned as an ungainly and slow-moving colossus, hardly seems a natural candidate to lead the development and marketing of one of the most exciting communications breakthroughs in recent years. Yet this is the role that it, has enthusiastically embraced in a determined effort to make Prestel a commercial success.

From the beginning, the PO has been the prime mover behind the service. It has

shown an uncharacteristically tenacious persistence in prodding its private sector partners forward, faster perhaps than they would have liked. And it has put its money where its mouth is, earmarking about £100m on the development of the service up to 1985.

The Post Office has been driven by two main considerations. First, a desire to capitalise on Prestel's undoubted lead over viewdata services developed in other countries. Secondly, the need to enable the

more than 100 companies involved in the project to make a return on their investments as quickly as possible. It therefore decided early on to work to the shortest possible timetable.

It had originally planned to hold a market trial to assess the service's commercial prospects. But in February 1978 it decided to proceed directly to a limited public service starting in March of the following year, a full year earlier than expected. In the meantime, a six-month test

service was organised to evaluate viewer response.

The result has been a somewhat ragged start. Fifteen hundred users had been supposed to take part in the test service, but the manufacturers were unable to produce enough sets. There were only 100 operating when the test began and some 850 when it ended. Numerous technical sores were encountered in management of the Prestel computer and in updating the pages on it. Today, a year after that

limited public launch in London only, a good number of these problems have been ironed out. But Prestel still has only about 2,400 subscribers, most of them businesses, concentrated in the London and Nottingham areas. Glasgow, Edinburgh and Birmingham were added earlier this month. The Prestel data-base currently contains about 155,000 pages of information.

The Post Office does not attempt to conceal its disappointment that the number of users and breadth of the service is not greater. But Dr. Alex Reid, the energetic 38-year-old Director of Prestel, claims that a remarkable amount of progress has been telescoped into a very short period. In retrospect, he says, the target were probably too ambitious but so, as a valuable catalyst for advancing the project.

Triangular

The commercial structure underpinning Prestel is an unusual triangular relationship involving the Post Office, the set manufacturers and the information providers (IPs). Their roles are clearly distinguished but mutually supporting (though that does not prevent a certain amount of back-biting between them from time to time).

The Post Office provides the computers on which data is stored and the telephone lines on which it is transmitted. In an unusual departure from its telecommunications monopoly, it has given the set manufacturers an almost free hand in choosing to produce whatever types of receiver they like; indeed, it has strongly urged them to make as many different sets as possible.

The IPs are free to place whatever information they want in the data base, provided it is legal. This policy recently faced its first serious test in the form of the fracas over the "Dirty Books Guide" offered by Mills and Allen, one of the principal IPs. It remains to be seen whether the report into the matter ordered by the Post Office chairman, Sir William Barlow, will lead to a tightening of the rules.

All three groups have had problems to overcome. The set makers have had difficulty obtaining adequate supplies of suitable chips to make the Prestel modules. The IPs have found it harder to design pages than they at first thought and have complained that the editing time allowed them to amend pages on the computer is too short.

The Post Office, for its part, has faced a major challenge in getting the technical details of the system right. Its aim from the outset has been to make Prestel a uniform national system by making the same data available to local callers across the country. This has meant building up a network of identical data bases throughout the UK.

A drawback to this approach is that it involves a difficult choice between expanding the geographic spread of the service on the one hand and adding fresh page capacity to data-bases already in operation on the other. The resulting compromises have meant that the number of available pages has not grown as fast as the set manufacturers would like, while the IPs have complained that the service must be enlarged to more potential users in different parts of the country.

Another difficulty stems from the sheer complexity of devising a satisfactory computer network. The Post Office decided to install a number of small machines scattered throughout the UK rather than a large central one, partly because it wanted to avoid reliance on a single host computer which would bring the whole service to a halt if it broke down.

By the end of this year, the Post Office hopes to extend the Prestel service to a total of 18 urban areas embracing 60 per cent of UK telephone subscribers. It is working on plans to provide access via trunk calls, technically difficult at present. It also hopes that set production will rise to about 50,000 units a year, though this is considered rather optimistic by the set manufacturers.

The service has so far been taken up predominantly by business, rather than residential users, and this pattern is expected to continue for some time. A feature which has particularly appealed to the business world is the so-called Closed User Group (CUG), which enables a network of subscribers to communicate privately through Prestel by keying in a special pass code known only to them. Demand has been so strong that the Post Office has had to place a quota on the number of pages in the data-base available to CUGs—15 per cent of the total—to prevent them from squeezing out other users.

Another useful commercial application is in travel agencies. These can now be tied into a Prestel network enabling them to consult a wide range of airline timetables and holiday tour schedules. If a customer decides to make a reservation, this too can be handled through Prestel.

The Post Office hopes that the recent development of a system for transmitting still colour photographs on Prestel will widen its appeal both to business and home users. One obvious application would be to create an electronic equivalent of mail order: viewers would be shown pictures of products on the screen and would then place their orders and arrange payment via the Prestel network.

Agreements
Prestel has also been proceeding apace with some success. Agreements for the sale of the technology have already been reached with authorities in Hong Kong, the Netherlands, West Germany and Switzerland. An international market trial, involving about 300 users, is due to be launched shortly.

Aregon, formerly Inmac Viewdata, a subsidiary of the National Enterprise Board, has acquired exclusive rights to market Prestel in the U.S. It has already scored one major success, an agreement to supply licences to operate the service for General Telephone and Electronics. So far, more than 20 American companies have signed to use the service.

The Post Office is convinced that it must go all out now to lock up as many overseas markets as it can while Prestel still enjoys a development lead. One sign that it is being taken seriously by its competitors was the decision by the French PTT last year to lure away one of the Post Office's top marketing men, Mr. Roy Bright, to head the international sales drive for France's viewdata systems.

Guy de Jonquieres

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Philips viewdata

There's more to it than meets the eye

Philips' involvement in viewdata goes much deeper than the TV screen.

In fact, from the very first days the company has been creating innovative products and equipment to add a whole new world of knowledge to viewdata technology.

Today—backed by a substantial investment from the Research & Development budget—in excess of £450M annually—Philips Group Companies and Divisions are working together to produce a total capability for all viewdata services.

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As a major supplier of telecommunications equipment to the British Post Office, Pye TMC was able to use its expertise in viewdata development.

One result is the Pye VISA Terminal for viewdata. Compact and totally self-contained, it has been carefully styled for desk top use.

A nine-inch screen gives easily read display and an integral auto-dialling keypad provides simple access to the computer. No special skills are required, and any size of business can benefit. PYE TMC

'Viewdapta' brings viewdata to the standard TV screen:

The Labgear 'Viewdapta' interfaces with the Post Office telephone line

to provide the PRESTEL service on a standard TV—b&w or colour, large or small screen.

It can be used with a second TV—thereby not interrupting normal programmes. And the unit will drive more than one receiver thereby presenting a less expensive alternative to purchasing receivers with a built-in decoder. PYE LABGEAR.

Word Processors for viewdata:

Development plans are well advanced for integrating the Philips Word Processor range with both PRESTEL and private viewdata systems.

The VDU/Keyboard Operator Console will provide the dual function of word processor and

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Colour television for viewdata reception:

Philips colour television receivers were amongst those used for the official British Post Office viewdata trials.

The new 22" 708 with the latest micro processor gives full PRESTEL facilities as well as CEEFAX, ORACLE and all three domestic TV channels.

Now, both the private householder and the businessman has

fact-finding at his fingertips; everything from simple travel time-tables to up-to-the-minute stock market reports. And soon—TV screen shopping! PHILIPS VIDEO

Video, voice, data or text communications:

The application of viewdata is an intrinsic and essential component of any integrated business communications system.

Typical applications are communicating and 'intelligent' systems for closed-user groups on the PRESTEL SERVICE; or closed-circuit groups via PRESTEL; or on fully inter-communicating networks linked nationwide if necessary—by tie-lines. Such services could be externally accessed—where appropriate—via connection to the public switched Post Office network. PYE BUSINESS COMMUNICATIONS.

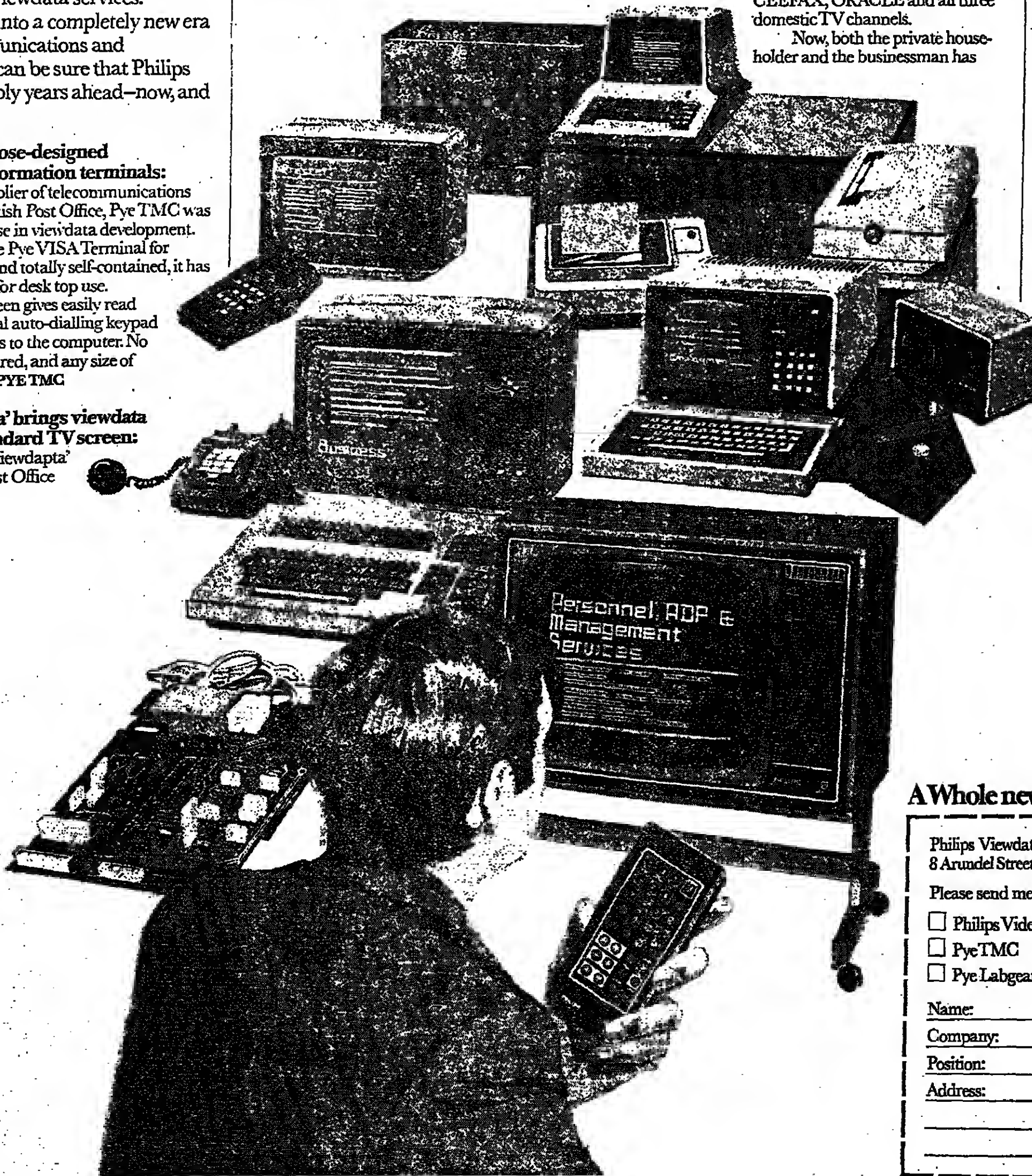
Mullard first with complete viewdata component package:

The massive Mullard investment in the development and production of special components for viewdata systems is a major contribution to Britain's world lead.

This continuing commitment has already earned Mullard an international reputation as the supplier of a full range of components for viewdata receivers—from specially developed complex micro-circuits to the only British made colour picture tubes.

It has also led to the mass-production of the first complete package of fully engineered modules, which provide everything from remote control to on-screen display.

Mullard, the largest manufacturer of electronic components for British industry, are also pioneers in Teletext—and helped to establish the British standard. MULLARD.



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VIEWDATA IV

Business is Prestel's main market

BUSINESS IS generally held to be Prestel's major market, at least over the next few years. The main and obvious reason is cost: a Prestel set costs around £1,000 (and since they are scarce, there is little or no discounting) or may be rented for around £25 a month; the number of households prepared to buy or rent at these prices is limited. Recent forecasts predict that the domestic market will remain smaller than the business one until the mid-1980s.

Dr. Alex Reid, Prestel's first director (he has recently been appointed to head the Post Office's business systems marketing group) agrees that business will be bigger at first, but disagrees on the forecast. "I think the domestic market will grow more rapidly than that. I think we might see domestic sets outnumbering business by 1982 or 83."

The most recent survey of Prestel use, based on a market trial of 1,000 domestic and business users over four months, confirms the general trend of opinion. After two months, 54 per cent of businesses surveyed said they wished to keep the set, while 7 per cent said they would not (30 per cent couldn't decide).

Households, on the other hand, didn't take to it nearly so well. Only 24 per cent said they wanted to keep it, as against 46 per cent who didn't. However, 32 per cent of households said they thought it was good value

for money (62 per cent of businesses did) and 51 per cent said they would pay as much as £14 a month for it.

With such evidence, many in the Prestel community find it puzzling why the Post Office insists on the public service dimension of Prestel. Dr. Roger Tomlinson of Unilever Computer Services says: "The Post Office seems strangely committed to the public consumer in its marketing of Prestel. One feels that the rest of the (Prestel) industry is used to working on three-year timeframes, and that means selling to the easier business market."

No mystery

There is, however, no mystery in the Post Office's position. While it has recently revamped its telecommunications division (soon to become an independent corporation) and placed much more emphasis on marketing, it remains imbued with the public service ethic and indeed remains obliged to be so by its statutory duties. Further, the £40m it will spend on the system needs as large a market as possible to recoup the investment. If Prestel does not catch on in the home, it will not be the fault of the corporation.

The brute facts of the marketplace, however, currently force the corporation to pay relatively more, attention

to the business sector. The marketing of Prestel internationally (as a service, rather than a system) will be aimed at businesses only.

The idea was first mooted in 1978 when Logica, the major software house, investigated the market and found it good. In June last year, the Post Office authorised a limited trial of the service, to cover 200 companies in the UK, Australia, Switzerland, West Germany, Sweden, the Netherlands and the U.S. Each of the invited participant companies will be provided with a Prestel set, and will be connected with a dedicated computer which will handle information specially prepared for international business needs.

The success of the international trial will determine whether the business information side of Prestel can find a new market in the future. It is likely, however, to be limited: the major concern remains securing a large and growing business clientele in the UK.

What is the businessman being offered to make him into a willing subscriber? The answer can be twofold: the Prestel community would tend to chant the litany of 150,000 pages of information... a range of specialised and expert business information providers... a business tool which will help cut costs and secure up-to-date information... and so

All this is, or might be, true. But a slightly different answer would point out that Prestel—like the other viewdata systems now being developed round the world—is still not a precise entity: no one knows exactly what it is, or, as Mr. Tim Cooke of Logica put it in an article in the Post Office's guide to the system: "The strength of Prestel, its extraordinary flexibility, is at the same time its weakness—its essence cannot easily be defined."

His point is made when one asks questions of the system. Is it an information medium? Yes... but it is more than that. Is it a selling medium? It can be, but it is heavily information-based. Is it a computer product? In part: used with teletext, it can be a powerful computer aid.

This is not a major weakness: definitions are less important than practical use, and businesses will find—after finding—practical uses for the system. The information providers of business or business related data abound: they are indeed the most numerous of the providers. They include providers of personnel information, Government statistics and services, market and share data, economic forecasts and updated news, company analyses, legal data, stockbroking and fund management services, and marketing surveys.

Business data, because of its general ability to be presented

in concise or even numeric form, lends itself well to Prestel. The market trials appear to indicate that the medium has been well received.

Special sets

Further, the business community is likely to be well provided with specially tailored Prestel sets. Most of the manufacturers have designed and are now beginning to market desktop monochrome terminals, believing that these will be the first to move in volume. At present, there is a shortage: development of the components has proved a longer process than expected, and the manufacturers have been cautious about the market. The common belief is that availability will improve as 1980 wears on, though it is quite likely that demand will remain ahead of supply.

Further, the flexibility of Prestel allows itself to be easily adapted for use by what is now commonly known as closed user groups: that is, users in a specific trade or with common needs, who develop a database for their own uses, inaccessible by non-group users but using the Prestel infrastructure.

Travel agents are the most commonly cited group here, because their needs have lent themselves particularly well to Prestel and they have been the first to seize on it—they are also accustomed to using computer screens and keyboards.



Editors at Mills and Allen key information into the Prestel system.

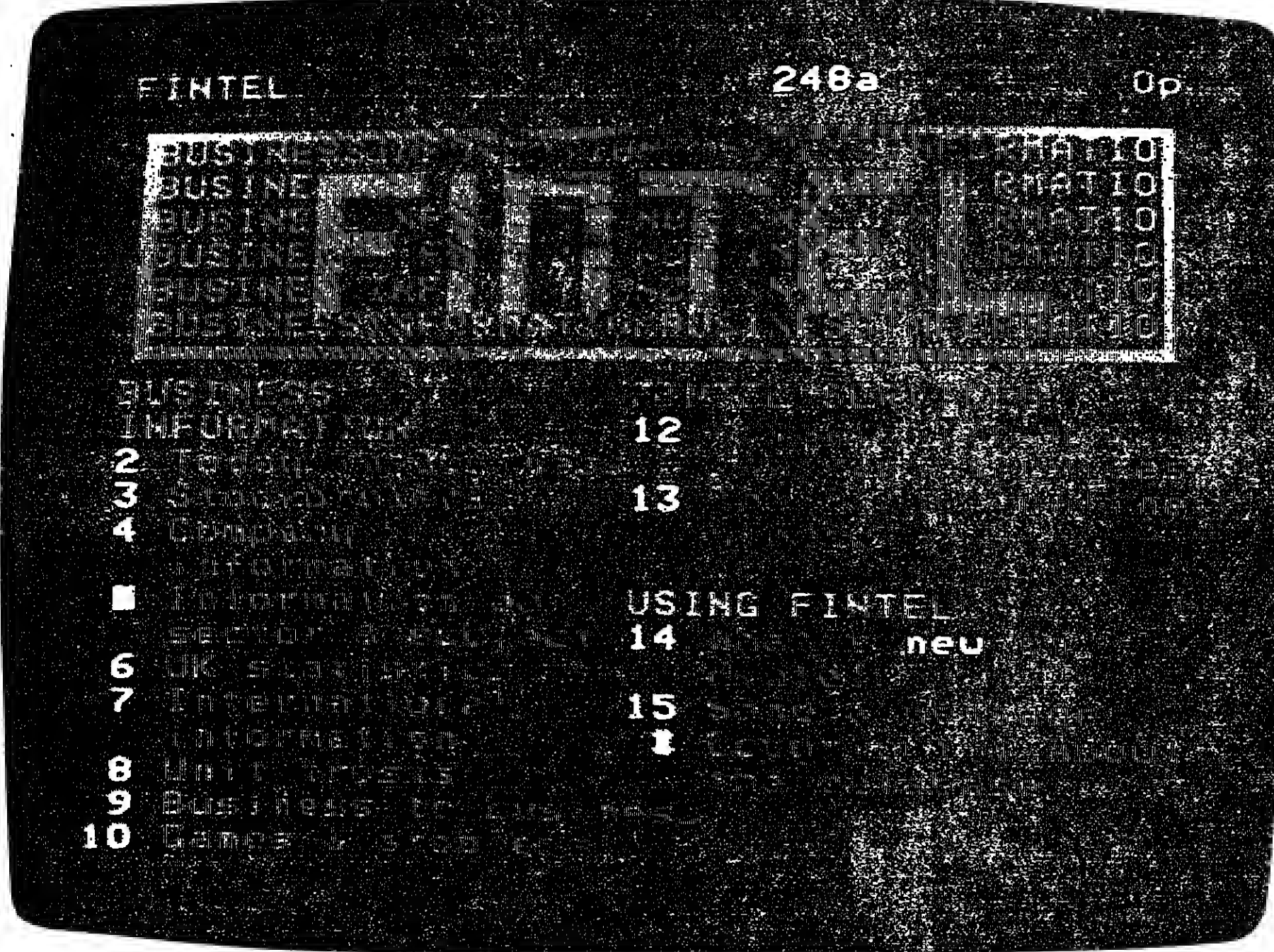
At the same time, a number of organisations have offered private data retrieval services to organisations for some years—offering material as, for example, abstracts of technical reports—and many are now working to make their services Prestel-compatible so that they may create new closed groups. There are some problems of compatibility: the data retrieval services, for example, typically use a full alphanumeric keypad and access information by means of keywords, where Prestel uses a numeric only keypad and accesses down a "tree" of numbers. But the

problems are surmountable. Dr. Tomlinson of Unilever believes that the "electronic publishers" will get a major push from Prestel. He says: "What is different and interesting about publishing data in electronic form is the power to transform that data into information during the process of extraction."

"Electronic publishing offers the opportunity to add value at that stage in a way conventional methods never can. Sometimes it is the medium of presentation of data which is enhanced, for example by colour graphics or even by microfiche. More often

it is the software-driven environment made available with the data which provides the key to turning data into information." Clearly, the system is there to be exploited. It has some of the imperfections associated with a pioneering product, though there are clear signs that the Post Office, and the other actors on the Prestel stage, can innovate and improve. The test of its success is likely to be the willingness of, in the first place, British business to take up the new medium.

John Lloyd



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And that's not surprising. Because fifty years' experience, from the early days of television right through to the current exciting developments in video, puts Radio Rentals right up front. Especially when it comes to providing all the latest

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You can be sure Radio Rentals will keep your set working perfectly with over 2,750 fully trained engineers. That's more than any other TV service organisation.

So call at or telephone any of the showrooms given below for more information.

Prestel Viewdata will be available to around 60% of phone subscribers in the UK by the end of this year. So some-time installation may be subject to delay.

Visit the Radio Rentals stand, No 71, at the Viewdata '80 Exhibition, Wembley Conference Centre, from 26th to 28th March. Where we are demonstrating both domestic and business Prestel Viewdata sets, and we can answer your questions too.

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Because we're biggest you get a bigger choice.

New services for the home

THE WORLDWIDE telecommunications network in addition to carrying telephone calls, television pictures, written messages like telex, still pictures and diagrams, also links computers into huge networks, bringing totally new services to the home and office.

Prestel is such a service which gives people access to almost limitless amounts of information, using the telephone network and the ordinary television set equipped with an adaptor.

The Post Office concept of Prestel turns the ordinary television set into a data terminal connected directly to a computer, bringing the full power of such a machine into the home.

Few homes in the UK do not possess a television set today and the number of telephones is increasing rapidly each year. Since both are common, the step of providing Prestel is far less daunting to the homeowner than asking him to buy what is, in effect, a computer terminal.

Prestel at the moment is an information service rather like an electronic version of the yellow pages. It can be used to find out timetables of rail, road or bus services, shopping and entertainment guides, to name only a few of the services already stored on the computer's memory files. All this information is controlled by the user himself by pressing the appropriate buttons on his calculator style keypad and the computer responds directly to his control.

Since Prestel is an interactive, or two-way system—because it responds to the subscriber—this opens up immense opportunities. It is feasible to order goods over the network. For example, if someone wanted to buy a book or obtain more information about a foreign holiday package run by a tour operator, all he has to do is to type out the relevant code on the keypad. As the central computer keeps a list of all users and knows which set is making the request, it can pass details to the seller.

Sophisticated

Another development of Prestel could be a more sophisticated version of the extensive telex network which is widely used by businessmen to send written messages. Instead of a simple calculator style keypad, a full electronic typewriter keyboard would be needed. The user (at home or work) could draft and correct a message using the keyboard and the message would appear on the television screen.

Once completed, the user would need to send a command to the Prestel computer giving the identification number of the intended recipient and the message would then be stored by the computer until the recipient next turned on his television to receive Prestel. A signal would be sent by the computer that a message was waiting and it would then be displayed on the screen. However before releasing his message, the computer could ask the receiver to type out a special identity code. Once a message had been passed on it would be erased from the computer's memory and the sender charged for the message based on its length and the distance it had travelled.

Prestel could be equipped with printers to produce a permanent copy of the message. It could be used to print bills, bank statements and other documents. They could be transmitted directly from the com-

puter operated by the bank, gas or electricity authority, or the Post Office itself, without the need for human involvement.

The system could be carried a step further by allowing the subscriber to pay his bills through the Prestel system. On receipt of an instruction from the subscriber through his terminal, the bank's computer would transfer the amount owed from the consumer's account to that of the billing organisation, reducing the burden on the postal system even further.

All types

Once a Prestel decoder is built into a television receiver, the television set becomes a display for all types of written information which is stored electronically. A simple audio cassette, for example, could store many hundreds of pages of Prestel which would be played on a standard receiver with a decoder. This edition of the Financial Times could probably be stored on one C60 cassette.

The technology could be adapted to publish books. Cassette books could be bought at a shop, or they could be transmitted through the telephone network at off-peak times. The subscriber would record them on tape for later display on the television screen or connection to a printer to produce a paper copy. A disadvantage would be that pictures or diagrams could not be used.

Publishers could list their available titles on the Prestel computer in the normal way and customers would use the keypad to request the text of a book they wished to buy. Payment could be made through the system electronically, as has already been described, and the publisher would have the advantage that no expensive stocks of books need be kept or delivered to book shops.

Once a "master" tape had been produced, no book need ever go out of print and no further typesetting or printing would have to be carried out. Since the electronic delivery of the book would be carried out at time when the telephone network is little used, the cost of the local telephone call at the cheap rate would be a small part of the reader's total expenditure. It might also be possible to print out copies of papers in the home every morning.

Some prophets in the electronic world believe that the day will come when most of the population will work from home (those who are lucky enough to have jobs after the electronic revolution, according to other thinkers). Prestel would play an important step when and if such a transition occurred because it already contains the elements of the electronic office systems which are now starting to be used in businesses.

Prestel is likely to be accepted as an international system since several countries have decided to experiment with it. It may eventually become an enormously complex system allowing subscribers anywhere in the world to have instant access to almost any type of information, as well as being a vast electronic mail network. But initially, Prestel's impact will be in the world of commerce, helping to bring about the so-called paperless—or electronic—office.

Elaine Williams

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مكتبة النخيل

Different means to the same end

TELETEXT, which is quite different from viewdata, is exactly the same. By which is meant: the systems work differently, are run by different organisations and are widely different in storage capacity and cost/price—but the net result of what they both produce is information, displayed on a screen. Both are wholly part of the "information explosion."

The point is worth making, for the prospective user is now being wooed to extend the uses of his television set by—in the UK—several different organisations. For Prestel, the Post Office takes the lead, with set manufacturers and some information providers playing the major parts. In the case of the two teletext services, Ceefax and Oracle, the BBC and the Independent Broadcasting Authority respectively cry their wares.

Naturally, the impression given can be confusing, the more so since the consumer is now being offered sets which are compatible with the teletext services, or with Prestel, or both.

The key difference between the two systems—viewdata and teletext—is in their transmission. Prestel uses the telephone network, and thus requires the linkage of the telephone and the

television set. Teletext is a broadcast service, requiring only a television set with a decoder and keypad. In the UK, the teletext services use two of the 625 lines which are used to transmit the normal television picture.

The system is thus rather simpler to use than Prestel, and is much cheaper: a teletext TV set costs somewhere between £50-£100 more than an ordinary set, while the rental premium per week for a colour set can be as low as 80p (compared with a £500 premium on the purchase of a Prestel set, and a £2-£3 a week rental premium); also, there is no charge for the use of teletext information, while Prestel charges both the cost of keeping the phone line open, and the cost per page of information accessed.

Access time

However, the key limiting factor in the UK service is the slowness of the access time. Four pages of text are transmitted each second, but pages cannot be accessed randomly. Thus if you ask for a page just after it has been transmitted, you must wait until the system comes round to the page of your choice again before receiving it. On a 100-page system, a full round

would take 25 seconds; obviously, the larger the system, the longer time it takes, on average, to receive the page of your choice.

Both the Ceefax and Oracle teams are hoping that this constraint will be eased in the future. There are, at least in theory, some 18 lines available from the 625, though it is unlikely that all will go teletext's way. More realistic is the belief that the lineage will be lifted from two to six, allowing an average access time one third shorter than it presently is.

Ceefax, the BBC system, has an older lineage than its ITV equivalent. It was developed by BBC engineers in 1972 from a matrix of already known ideas: like Prestel, it was a British lead, and the BBC claims it is still two years ahead of comparable overseas systems. Ceefax displays between 300-400 pages of information a day, split between BBC 1 and BBC 2. The BBC 1 service is news-biased, with features like headlines, FT index, sports headlines, and food prices. The BBC 2 service, known as Orbit, is more of a magazine, offering jokes and puzzles, consumer news and advice, background features on the news and advice columns. It also contains a guide to TV and radio programmes.

At the same time, the service is capable of adaptation and extension. The Ceefax team ran a special Christmas magazine programme last year, based on the Orbit concept: there is a newsflash facility, where top news is flashed on to the screen in a small box cut into the TV picture; and there are experiments going on to provide, through Ceefax, a sub-titling service for the deaf.

Two teams

Oracle, developed by the IBA, is based on two teams: one, concerned with news, works from ITN; the other, whose job is to provide a features service, works from London Weekend Television. It has a roughly similar format to Ceefax, showing typically between 350-400 pages every day, many of them updated several times during the day. It has the disadvantage, relative to Ceefax, of being the product of a federated network of companies, rather than being able to depend on a central bank of information and feature material. However, its regional structure will make it easier to regionalise the service, as it (and Ceefax) means to do shortly.

The idea will be to continue offering around 300 pages from the central service, but leaving

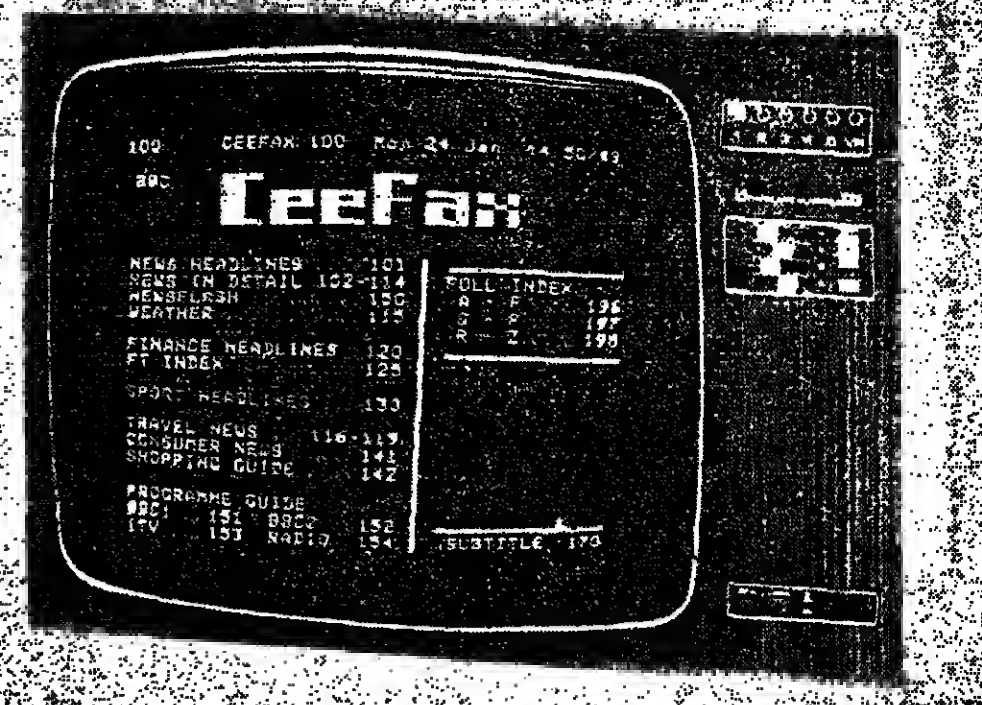
space for each regional station to offer up to 100 pages of local news, information and comment. The first station likely to take up the facility is Westward TV.

Further developments in the system include the major innovation of making it interactive—that is, allowing the viewer to input into the system, rather than merely receive it. This is being done by means of teletextware, an established Prestel venture: programmes will be offered to the system, which a customer with a specially adapted keypad will be able to use for his own applications—a simple accountancy programme, for example.

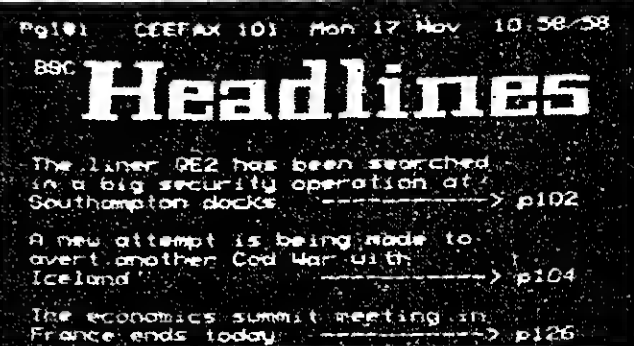
However, not only must the keypad become a hand-held calculator, but the set must also be further modified to be able to receive the software: at present, there are only two sets in the country receiving the programmes on an experimental basis.

For the moment, the system remains in an embryonic stage. Both services have been on offer for around four years: there are only some 50,000 TV sets in the UK which can receive them. It is clear that it must still make a breakthrough, and it may be that it will do so in company with Prestel.

John Lloyd



A set equipped to receive the BBC's Ceefax system, with an index to available pages on the screen. Right: the news headlines, arrived at by keying 101



Facts from 160 sources

COMPANIES and organisations which provide information for Prestel have been envious—waiting for more than a year for the television set manufacturers to begin making Prestel-equipped sets in large quantities. Future profits depend on rapidly-increasing audiences in both the domestic and business fields—trial audiences can give very little indication of the likely success of a particular service.

While the Post Office provides the Prestel service, it does not supply or control the information stored within the system. The P.O. sees its role as merely providing the system for use by other people, which is analogous to its role in the public telephone and telex networks.

Prestel is a public service to which anyone can supply and sell information. These information providers buy storage space on the large Prestel computers and retain all control of the data that they supply, while also taking all the commercial risks involved.

The information providers—known as IPs—very quickly decided to set up their own association so that the P.O. could be made aware of the needs of the providers while Prestel was being developed.

The association has proved to be a powerful lobby, not only in its negotiations with the Post Office, but also in negotiations with the equipment manufacturers. The IPs have frequently expressed concern that special TV sets are not being produced in sufficient numbers—it was hoped that mass production of equipment would have begun by the middle-to-end of last year, but large-scale manufacture will only be achieved this year, when about 50,000 sets become available.

However, this setback has not prevented the number of information providers increasing to more than 160 organisations, offering a wide selection of services, ranging from travel and theatre guides, magazines, careers and health information, to business services such as finance and stock exchange data, companies' reports and tax guides.

Dominant

Forecasters believe that business-users will predominate among the viewing public in the early years of the service. Many information providers have selected this area in which to offer specialised services.

For example, the Stock Exchange uses its own Epic computer system to update its service on Prestel regularly. This includes a list of 800 share prices, foreign currency rates and commodity prices.

Finlist, the joint venture between the Financial Times and Emtel, draws upon information collected, stored and published by its parent organisations. It takes its data from such publications as the Investor Chronicle, the Banker, and the Financial Times Business Information Service, as well as all of Emtel's own information on 150 companies, as well as detailed information on a further 600.

DataStream, specialists in company financial statistics, gives data on more than 1,000 companies. Last year, Jordans also joined Prestel with its own service to the business community.

Not surprisingly, one of the largest providers of statistics is the Government, through its Statistics Service which covers a broad variety of economic, social, regional and interna-

tional data. It also offers figures on trade, energy and agriculture. This is in addition to public information offered by various Government departments and local authorities.

Another significant class of information providers are travel agents and related organisations, such as airlines, railways, tour operators and hoteliers. The television screen is an ideal medium in which to display travel information which is why the travel industry has become one of Prestel's largest users.

Prestel is useful for displaying lists such as airline and rail schedules, travel facilities, especially for the businessman, lists of hotels and restaurants, booking arrangements, available standby flights, as well as other data which might include cost of living around the world, details of local economies and economics, as well as general tourist information.

Holiday details

Tour operators such as Thomas Cook, Cosmos, Horizon and Tjaereborg provide details of holidays packages while British Airways, Sealink and Seaspeed display timetables. The ABC Travel Guide has timetables for British Rail intercity train services and all scheduled air flights.

Book and magazine publishers also represent a large proportion of the information providers. One reason for this is that systems such as Prestel, which can provide electronic versions of magazines and books, could completely change the nature of publishing. So publishers therefore seek their own survival when paper forms of publishing are eventually diminished in popularity.

Major trade, technical and newspaper publishers in the UK already have a foothold in the market. They include such names as IPC, Morgan-Grampian—part of the Trafalgar House Group.

Another class of IPs provide a wide range of general interest data on topics such as gardening and leisure.

Not all the information on the Prestel system is for general public reception. Some of the data is only accessible to certain viewers by special subscription. This is a closed user-group system and is usually provided for professions or particular sectors of industry. For example, solicitors can subscribe to a service which gives them advice of latest legislation.

Another example of a closed user-group would be retailers who can obtain information on supplies and delivery times. Well-known companies, such as Standard Telephones and Cables (part of ITT), W. H. Smith, Michelin, ICI, the General Electric Company, and GKN, all use Prestel to promote their services and activities to the public or industry customers.

Careers information and educational opportunities are two other areas where Prestel is being used extensively. The Open University, and Universities Central Council on Admission, give advice to prospective students, while other organisations provide lists of educational bodies and careers guidance.

Whether the individual viewer's interest is business or leisure, someone is likely to be providing the information in the hope that one day Prestel will be the first source that people turn to when they need factual advice or guidance, just as people tend to dial telephone inquiries, rather than search through the pages of the telephone book.

Elaine Williams

The 250,000 page Television that will change your future

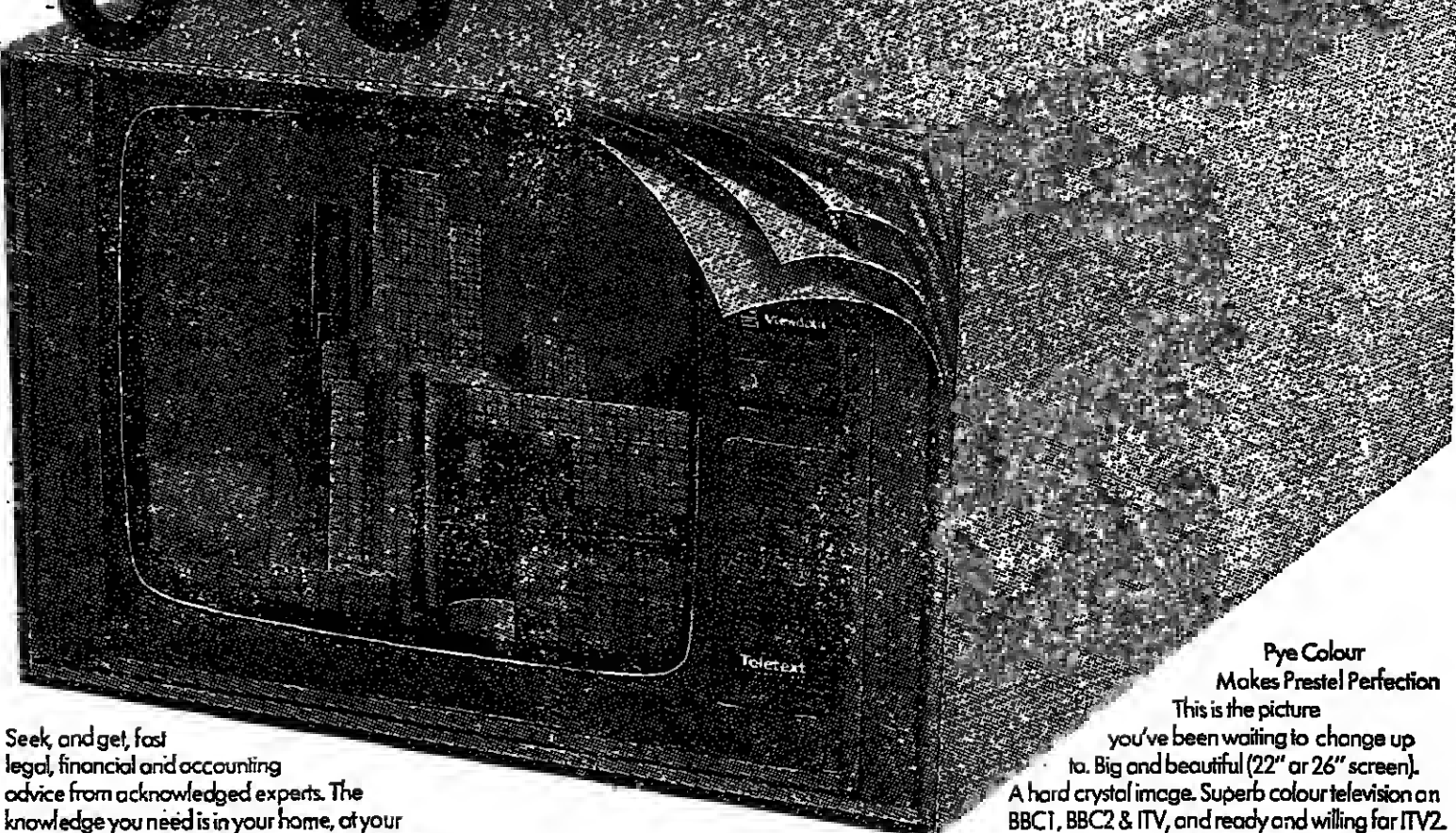
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THE VIEWDATA and Prestel software development process seems to be growing impressively since original work first evolved at the British Post Office eight years ago under the direction of Mr. Sam Fedida.

Prestel claims to have a three-year lead over the rest of the world in software development and one lesson learned is that simple and effective data input facilities are as important as data display. The industrial need for "umbrella" information providers (IPs) has given rise to the design of special software not initially perceived and it is this administration of the national network, with the problem of editing and updating the information, which is the most challenging task of all.

Work in the UK, particularly in software development, continues to move at a brisk pace. "We are adding customers at the rate of 15 a day, where two-thirds are business users and the domestic user is very active too," says Mr. Keith Clarke, head of Prestel research and development. "The technical and commercial problems are by no means over but I think the solutions will be to the benefit of our customers and the industry."

At first sight, viewdata software appears to be deceptively simple, but significant forces at work in the architecture of the system reveal that a great deal of time and skill has had to be given to three critical areas: the design of the user protocol or dialogue; matching the software structure to the hardware and matching the software structure to the protocol.

VIEWDATA VI

Critical areas emerge in software



Building Prestel sets at the Thorn Electronics factory at Enfield.

Mr. Fedida's major contribution was an effective system where the major emphasis was placed on an easy-to-use, minimum cost package intended to appeal to a mass market, which was perceived by him to exist both in the business and the domestic sectors.

In this mass market, immediate usage without lengthy and complex prior training is essential. The most important rule laid down at the beginning of the development phase was that training manuals were not admissible. Prestel is easy to operate, compare with a typical computerised database system where the user needs to learn a special language, which accounts for the enthusiasm for the system around the world.

A first step beyond the research phase of the early 70s was to design a faster, more efficient public service to fulfil three specific needs: a billing system roughly equivalent to the telephone billing software to meet full audit requirements; an information gathering system to provide statistics; and a network of computer dissemination links to update information at several Prestel service centres. "I think our highest single problem was that it had not been clear until recently exactly what kind of editing facilities the IPs really required," says Mr. Clarke.

Extension

After the preparatory period of 1973/74, a demonstration system was developed on a Hewlett-Packard 2100 MX computer to prove the question and answer technique (the user protocol). The next logical extension was to design a full time-sharing ability to support the Post Office target of 200 simultaneous users on a single computer, the GEC 4080, using the specially written pilot trial demonstration software with a person to person message capability, calculating facilities and a series of sophisticated games, in addition to information retrieval. Launched at Eurocomp in 1975, this showcase package developed for two years on PO computers at Martlesham, lost itself very well as a testbed for the TV industry, and at international demonstrations worldwide, where it finally laid the groundwork for Post Office sales to foreign administrations.

With its next phase of development, the Post Office concentrated on extending the software to support a market trial running under two computers at Gresham Street. Its purpose was to gain commercial feedback on the viability of the system and to provide a test-bed for the billing information system. At the end of its run in September last year, the PO introduced the first stage of public service software, a full system of multipoint computer networks spread across major towns, which received database and updates from the PO's national updating centre in London.

The production, marketing and distribution of telesoftware is a difficult and specialist task and here the PO is extending the viewdata concept from the distribution of information and data to the distribution of software. Telesoftware is the generic name for distribution of computer programs by means of the Prestel network, with the PO acting as a common carrier and private companies as the originators of that software, which can then be loaded for a variety of applications into microprogrammed terminals on the customer's own premises. The purchaser pays a small charge for the software each time they use it.

"In exactly the same way as Prestel has provided a market outlet for existing publishers, it will also provide a market outlet for specialist firms such as software houses and games manufacturers who would use the PO in its role as common carrier to distribute their products," says Mr. Clarke. Since the advent of the "miracle" chip, programmable local intelligence can be found in a variety of locations, both in

the home and office. Special viewdata characteristics will permit a full range of applications for both small and large businesses and the ability to acquire telesoftware easily and very cheaply via Prestel will have a significant impact on applications extending from VAT and home games, to carving a large market niche in the field of education.

Telesoftware development work carried out by CAP-CPP, under the direction of Mr. Ted Sedman, will now work on any private or public viewdata system which uses protocols similar to Prestel. These are some of the possible commercial applications developed by CAP for intelligent viewdata terminals.

CAP claims that telesoftware may be used to enable database users to extract the data they require faster than they would normally achieve. Once the data is retrieved from Prestel, telesoftware makes it possible to process the information and perform calculations directly on it. A useful extension to viewdata is the processing of response frames using the intelligent terminal. Telesoftware could be used here to validate all data sent from the user to the IP, by checking it as it is entered and only transmitting valid data. For example, an order entry system in which checks can be carried out for valid item numbers and stock.

There is no doubt that as the industry develops, a number of functions that IPs perform online to the Post Office computer may be performed offline on a terminal reprogrammed via the viewdata network to be performed locally. Examples of such are processing response frames, update, interrogate and providing offline editing facilities, specific to a particular IP's requirements.

For information security and to protect programs against piracy, CAP has built into telesoftware a number of security keys which enable the IP to specify for how long the program may be used; after this period the program becomes invalid and ceases to work.

Offline from the viewdata network, the user can run his own programs entirely in his own free time. It is likely that colour and graphics will soon come to be standard for displaying information in the office, in the same way that colour TV has taken over in homes.

Gateway

An example of just a few of the possible business applications would be in the area of private viewdata which is likely to develop into an important communication gateway in the future. Companies like GEC, Aegon and Thorn are now offering private standalone viewdata systems. The Post Office sees these complementary systems as contributing to the general development of the UK industry and making it more viable for everyone.

The Stock Exchange, which recently bought a system from Modcomp, has specially tailored software which permits a number of users to share programs and data files by access to the same information at the same time system-wide. The individual user system with local intelligence enables the user to run programs not previously possible with standard Prestel—he can write directly into the display memory so that information is instantaneously on the screen with the added capability of dialling Prestel, the Stock Exchange, linking through to his own computer, or going through to local viewdata.

Another capability of CAP's communications software gives users scattered across the country direct access to training programs using Prestel intelligent terminals with graphics and movement operating offline with no charge. Claimed to be a cost-effective solution to computer assisted learning, menu select allows for multiple choice question in programmed tests, each

student can interact directly with the terminal and neither student nor teacher requires knowledge of programming.

CAP is concentrating more on the business market because the ability to store information which the computer then displays in graphic format and colour is indeed an attractive communication aid. Viewdata is 40 characters a line and here CAP has re-written the software using the restricted screen width. In the future it will be possible to use standard Prestel protocols for distribution of programs which are capable of using 80 character screens.

MicroCobol, a machine independent programming language, developed by CAP, is specially aimed at the business market worldwide. Based on Cobol, it makes this language suitable for interactive use on small machines and also extends it to include modern structured programming concepts.

Penetration

The Post Office will make telesoftware available to any customer wishing to connect and Mr. Clarke predicts that much penetration of the mass market will come in the form of TV sets, where he sees a healthy future for home computers with microprocessors in Prestel and Teletext sets (Ceefax and Oracle).

A customer with an intelligent terminal can assess telesoftware via broadcast teletext and a big difference with Prestel is that the provider of telesoftware can levy a charge for this service, thus creating a viable market. As both services become part of our daily work and leisure, telesoftware will remain compatible with earlier generations of teletext, with the PO, BBC and the IBA more concerned in giving the TV industry a long period of stability.

Some of the features which are regarded by the PO as essential requirements for second generation Prestel are the display of photographs, material making editing cheaper and more convenient while maintaining compatibility with broadcast teletext.

Within the UK, the PO, BBC, IBA and the IPs are concentrating on achieving a single standard, as their major concern is to achieve bulk TV set and information sales using the proven TV models now in production, and the existing database.

Research carried out by the Viewdata and Visual Telecommunications divisions of the Post Office Research Centre indicate that the provision of colour pictures is possible on Prestel pages is possible by one of several picture coding schemes, at a range of transmission speeds. The promise of "Picture Prestel" is such that a change to intermediate graphics systems is unlikely to be worthwhile," says Mr. Clarke.

Marlene Brown

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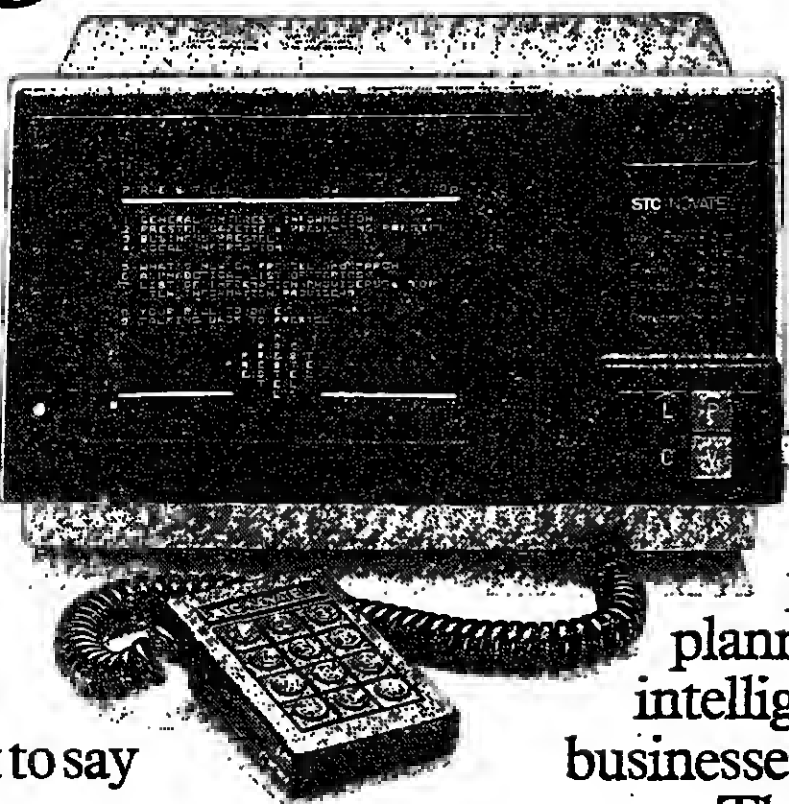
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Stock Exchange unveils TOPIC

WITH ITS gleaming orange and cream computers, bright green air-conditioning equipment, and coloured display screens, the room on the seventh floor of the Stock Exchange skyscraper provides an oddly futuristic contrast with the scurrying human activity on the trading floor below.

It is from this room that the Stock Exchange will, in a few weeks' time, launch its most ambitious step into the field of modern communications, giving subscribers speedier access to more information about the market than has previously been possible.

For the exchange's present means of transmitting news and prices is rapidly growing out of date. The Market Price Display Service (MPDS) can only carry around 800 stocks, while the new system will be able to accommodate some 1,500. And MPDS only has three of its 22 closed circuit television channels available for the large and increasing quantity of news that companies are pumping out each day.

Furniture

Since its introduction in 1969, MPDS has performed well. "It's part of everybody's furniture," says Mr. Nicholas Remington-Hobbs, manager of the SE's information and communications department. "If you took it away they'd scream." So MPDS will be retained for another three years, after which it will be decided whether to keep it going.

"We've got a desperate space problem," adds Mr. Remington-Hobbs. Apart from the limitation on the number of prices carried, the traded options page is crammed to overflowing, and the features channel is currently squeezed by the inclusion of six gilt-edged prices. The SE decided some time ago, therefore, that it would have to enter the Viewdata field.

The exchange has found a handy name for its new communications child: TOPIC (Teletext Output of Price Information by Computer). Already about 500 sets have been ordered, and Mr. Remington-Hobbs's department, pleasantly surprised by the level of response, aims to try to have these installed in the first year of operation. The eventual demand could reach 2,000—the SE's initial sums were based on a possible 1,200—with subscribers win are not SE

members paying £2,870 a year plus £950 for each extra receiver. For member stock-broking and jobbing firms the cost will be less.

To date, the demand has been fairly evenly split between those inside the market and those not directly involved in dealing. The first sets to be delivered will be for the SE's own prices department, but others near the top of the list include brokers like de Zoete and Bevan and Kemp-Gee, the Akroyd and Smithers jobbing firm, merchant banker Guinness Mahon, and the British Rail Pension Fund.

"We think it's the basis of a super system for the 1980s," says Mr. Remington-Hobbs. Not only will subscribers be able to key into the latest market data, but they will also have access to the Post Office's own public Prestel system. And member firms can make their own data available to selected clients through TOPIC.

The Stock Exchange started along its present road with EPIC (Exchange Price Information Computer) which came in about 2½ years ago. Developed jointly by the SE and Exchange Telegraph (Exel), this sends out price data to MPDS, as well as to Exel's own financial information systems and to Reuters. Jobbers' running prices are fed into EPIC for the 1,500 or so active securities, with figures for the less active ones put in twice a day. On a really busy day, over 4,000 prices may be inserted.

It is on the basis of EPIC that the exchange has produced TOPIC at a cost of around £1m, including all the equipment. Unlike MPDS, the SE is actually marketing TOPIC, though only on a fairly low-key basis at present. It aims to balance its books on the system, though this may later have to make some sort of contribution to the exchange's general finances.

It was the establishment of a common text for Teletext and Viewdata transmissions that decided the exchange to use this means for its new system. At first it looked at the possibility of using the existing MPDS network but then found that neither the quality nor the capacity would be adequate.

The exchange then turned its attention to the possibilities of the PO's Prestel service, for which it currently provides daily data on around 800 stocks. Yet while it was keen on using the telephone network to exploit

the possibilities of Teletext, it was less sure about Prestel's actual suitability.

For one thing, there was the danger of congestion. When a major piece of financial news is announced, everyone connected with the market needs to know immediately. If the system becomes overloaded at such peak periods, some subscribers could well find themselves left in the cold, especially in the system's early days.

So for this reason, as well as those of usage costs and the continuous updating of information, the SE decided to work on its own Viewdata system designed to meet its specific needs and be under its own control. There would be no curbs on storage capacity, users would have swift access to the news they wanted, and the information could be displayed in an effective way using receivers produced in mass-production quantities and compatible with public services in the field.

For the computers to run TOPIC, the exchange went to a U.S. company in Florida, Modular Computer Systems (Modcomp). It bought two Classic 7870 computers at over £110,000 each, one to handle the first 1,000 receivers on the system and the other for back-up. When more subscribers come in, another will be ordered.

For the terminals to be installed in subscribers' offices, the Stock Exchange finally agreed on two suppliers. One is a Belgian TV manufacturer, Barco, and the other is a consortium, Bishopsgate Terminals, specially formed by the Hambros banking firm, Modcomp, and Alphameric (a UK keyboard company).

No preference

At this stage, the SE is expressing no preference between the two suppliers. Its future purchasing attitudes will depend on the production flows from the companies and the performance standards of their sets. The first terminals have come from Barco, an established concern. The Bishopsgate Terminals group, on the other hand, was formed specially to build a business Viewdata terminal for the exchange's needs, with the aim of exploiting the product more widely later on.

TOPIC's microprocessor-based communications devices have come, at a cost of £230,000, from an Ottawa firm called

Gandalf—familiar to Tolkien readers as the wizard in "Lord of the Rings"—which was set up by two engineers from Britain. Curiously, it had already come up with equipment ideally suited to the SE's needs as part of its own development programme.

What, then, will the TOPIC subscriber be able to see on his screen? As with MPDS, he will be able to call up any desired prices along with all the main movements during the trading session. But since the upward and downward swings will be shown in different colours—red for down and blue for up, as on the jobbers' boards on the dealing floor—he will have an immediate impression of price trends for an individual stock, sector, or the whole market.

"The use of colour is extremely important," notes Mr. Remington-Hobbs. The

system will also display, in bar-chart form, the relative daily performance of each sector and give an indication of the percentage movements. Colour will also be used to highlight company announcements. These will not only have more space, but generally be kept on the system for a whole day along with an index. Major commodity prices and currency rates will be shown, and it will eventually be possible to show leading stock market indices, such as the FT 30-share index, on a rolling basis.

There is also a unique feature the "jump button," which will enable a subscriber to switch at once from a major news item, such as a bid to the information which it is anticipated he will need next, like the share price.

Andrew Fisher

Dr. Alex Reid: a hard act to follow

THE PUBLICATION of this survey coincides not only with the world's largest viewdata exhibition, but with the appointment, on April 1, of Mr. Richard Hooper as director of Prestel in succession to Dr. Alex Reid. Few would deny that Dr. Reid's influence on the development of the Prestel system has been an enormous one, and that his will have been a hard act for Mr. Hooper to follow.

Dr. Reid took a degree in architecture at Trinity College, Cambridge, then spent five years in the Fleet Air Arm as a helicopter pilot. He returned to his architectural studies at University College, London, where he took MSc and a PhD. From 1970 to 1972, he was a director of the Communications Studies group at University College, and was then hired by the Post Office to head up its long-range studies division, where he stayed from 1972 to 1977. In 1977, he was appointed project manager then, in 1978, the first director of Prestel.

He says: "From the start, top management saw that Prestel was a new kind of venture for the Post Office and needed a new kind of structure. We set out from the beginning to work with the private sector in a way that the Post Office has not done before.

and that needed a wholly new approach. I was given enormous support, but a pretty free hand."

Dr. Reid would appear to be entitled to regard his three years at the head of Prestel as successful. He has established a context in which the corporation can work with information providers on one hand, and set makers and distributors on the other; and though some grumbles have been heard on the massive presence of the Post Office steamrolling opposition, it has been muted and inconsistent.

He set himself killing dead-ends, and while they initially slipped by some months, he reckons that had they not been so strict, the time taken from planning to launch would have been three years, against 18 months. He has been able, he says, to count on dedication and hard work from a team motivated by the knowledge it was breaking ground no-one else in the world had.

The one major criticism made of Dr. Reid's policies—though they are not purely his, being in this case partly dictated by Post Office wisdom—has been of his insistence that Prestel is a medium for consumers as well as business. It is argued that the high cost of the set, and of using it, will deter all but the upper reaches of the domestic market,



Dr. Alex Reid

and that a system tailored more exclusively for business would have had greater initial success.

Dr. Reid is wholly unrepentant on this issue. He believes it was and is correct to push Prestel as a public medium, and says it will catch on as availability of sets improves and as prices come down with discounting and with extra production. Rental chains, he thinks, will play a role in getting sets into people's homes at low initial cost: the "play" aspect of Prestel, as well as its teaching applications, will make it a

more and more commonly accepted household tool.

Dr. Reid will be able to monitor closely whether or not he is right: his new post, as director of business systems marketing, has Prestel in its charge. He leaves his seat "with some regret."

His successor, Richard Hooper, is 40, with a first class degree from Oxford in modern languages. He joined the BBC as a general trainee, then spent a year, from 1967-68, on a Harkness Scholarship in the U.S., studying education and communications. He returned to the BBC, where he became a senior producer, and from 1970 to 1972 he was at the Faculty of Education studies at the Open University. In 1973 he became director of the national development programme in computer-assisted learning; and in 1978 he joined Mills and Allen, where he was made managing director of Mills and Allen Communications, its viewdata arm.

He has already made news, though not in the way he would have sought. Mills and Allen, which is one of the largest information providers for Prestel, offered among other attractions a guide to pornography magazines and books. Mr. Hooper did not have the idea nor did he supervise it; but he did sanction its publication. Much steam was raised:

questions were asked in the Commons, and Mrs. Mary Whitehouse wrote to Sir William Barlow, the Post Office chairman.

Sir William expressed concern, the Post Office denied that it was attempting to exercise censorship over what was published on Prestel... and finally, Mills and Allen dropped the guide, no doubt to the disappointment of the extra customers which the service attracted since it gained publicity.

Mr. Hooper seems undamaged by the incident: he is as enthusiastic as Dr. Reid about Prestel's future, and as committed to its prospects in the domestic market. He says he sees the system in the same way as Dr. Reid, but that his task will be to ensure the Prestel becomes a mass market product. "We change gear this month with the big advertising campaign. Prestel ceases to be an experimental system and becomes a public service, in a production environment. My task is to make sure that it works as an operational reality. This means I will have to get involved in some of the smaller things—the first thing will be to see that sets are available, and then to see that we match set availability with computer capacity."

J.L.

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Revens Radio Ltd., 311 Greenford Rd, Middlesex.
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A. Biggar Ltd., 273 Sauchiehall Street, Glasgow, Scotland.

B. Graham Ltd., 758 Green Lane, Winchmore Hill, London N21.

Broadway Music & Vision, 4 The Broadway, Woodford Green, Essex.

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Hodgsons Radio & TV, 10 Chestergate, Macclesfield.

Kellys Radio, 8/9 Swan Walk, Romford, Essex.

Ladds, Hamch Lane, Kings Heath, Birmingham.

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A.C. Nunnery, 118 High Street, Edgware, Middlesex.

R.J. Palmer Enterprises Ltd., 20/22 Payne Street, Glasgow, Scotland.

Paul Electrical Co. Ltd., 252 Grand Drive, Raynes Park, London SW20.

Radio Lux Ltd., 108 The Parade, High Street, Watford, Herts.

T.E. Roberts, King St. Ltd., 26 King Street, Wrexham.

Seamans TV Service, 24 High Street, Carshalton, Surrey.

Sewards Video, 49 Wokingham Road, Reading.

J.W. Smilie (TV) Ltd., 119 Busby Road, Clarkston, Scotland.

Thos TV, 91/93 Lower Sloane Street, London.

AEL Ryler, 189 Felixstowe Road, Ipswich, Suffolk.

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THE SPEED with which viewdata and teletext services gain public acceptance during the next few years will depend on much more than their intrinsic novelty and usefulness. It will also be critically influenced by how quickly television manufacturers, distributors and rental companies can supply suitable sets in quantity and at what price levels.

To date, the running has been made by teletext-only receivers. Roughly 40,000 of them have been installed in the UK and industry forecasts point to deliveries of as many as 100,000 this year, with a further big rise in 1981. The sets sell at a relatively small premium over conventional colour televisions - typically about £100 - which goes some way to explain their success.

All the major British television manufacturers are also producing Prestel sets, as are several foreign-owned firms and multinationals like IIT, Philips and Sony. But output volume is still modest. By early March, only about 2,600 sets had been installed, considerably fewer than the Post Office had hoped for.

The Post Office strategy for Prestel relies heavily on the assumption that the set manufacturers will see it as being in their own interest to create a market for the service by gearing up for large volume production. Dr. Alex Reid, Prestel's Director, argues that it offers them an opportunity to add value (and therefore profit) in their products comparable to that afforded by the introduction of colour television a few years ago.

Teething

The industry's slowness to seize the baton so eagerly tendered by the Post Office is due in probably equal parts to technical teething troubles, component shortages and commercial caution. Though Prestel sets resemble ordinary televisions externally (and do, of course, receive television broadcasts) they are considerably more complex inside.

Unlike the teletext set, a Prestel set is fully interactive: that is, it can transmit as well as receive data, enabling the user to hold "dialogue" with the central computer to which the set is linked. It therefore needs input and output processors to handle instructions. It also requires a modulator/

demodulator (modem) to translate information travelling from the computer into words and graphics.

To these elements must be added an electronic memory to store page "frames" while they are displayed on the screen and a control unit, either a simple keypad or a full alphanumeric keyboard, similar to that on an electric typewriter. Finally, the whole assembly must be electrically isolated to prevent interference with normal television reception.

It has taken the manufacturers time to get all this hardware working together smoothly - when they could obtain the hardware at all. For they have also been handicapped by an acute shortage of suitable silicon chips - a consequence of the general scarcity affecting the world market for advanced micro-electronic components at present.

The position is considerably easier now. Though Texas Instruments, until recently the main chip supplier, is said still to be having difficulties producing components in satisfactory quantities, Mullard's output has picked up strongly at its UK plant. Using micro-processors made by Philips' California subsidiary Signetics, Mullard expects to turn out about 30,000 complete "modules" for Prestel sets this year.

The U.S. company General Instruments is also moving in as a chip supplier and GEC, which makes its own components for the Prestel sets which it is manufacturing, also expects to sell them to outside customers.

In commercial terms, the manufacturers have faced a "chicken and egg" problem. To lower the unit cost of Prestel sets they need to achieve large production volumes. But the high market needed to justify high output can only be attained if set prices are reduced to a reasonably affordable level.

The latter objective has yet to be attained. The cheapest large screen colour Prestel set now available sells for about £900, or about the same as an ordinary colour television set and a video cassette recorder together. Rental rates are also high, starting at about £300 a year, which is the way to host the Prestel audience would be through adaptors, designed to plug in to existing television sets. Pye Lab Gear offers such a device and the Post Office has also considered marketing one. But apart from the inherent difficulty of obtaining the same picture quality as with a specially-built Prestel set, the P.O. is reluctant to abandon the "handset" which it has so far devoted towards the provision of Prestel receivers.

One way to host the Prestel audience would be through adaptors, designed to plug in to existing television sets. Pye Lab Gear offers such a device and the Post Office has also considered marketing one. But apart from the inherent difficulty of obtaining the same picture quality as with a specially-built Prestel set, the P.O. is reluctant to abandon the "handset" which it has so far devoted towards the provision of Prestel receivers.

According to the Post Office, only 10 per cent of Prestel sets now installed were acquired by home users out of their own pocket. Another 30 per cent are being used at home but paid for by company expenses. The rest of the sets, 70 per cent, are installed in offices, which are expected by the industry to continue to provide most of the demand over the next five years or so.

The industry argues that the size of the Prestel data base is still too limited and user costs (in the form of telephone and page charges) too high to attract a truly popular audience.

VIEWDATA VIII

Growth depends on set makers



Mr. Tom Crane of Buxton, Norfolk, runs three companies farming 2,000 acres. He has a Prestel set as part of a Ministry of Agriculture experiment. He uses it for information on stock prices, crop diseases, and details of day-to-day farming life in East Anglia.

MAJOR PRESTEL SET MANUFACTURERS AND THEIR PRODUCTS

Company	Screen sizes	Colour/ Monochrome	Company	Screen sizes	Colour/ Monochrome
Decca	14, 16, 22, 26	Colour	Pye TMC	9	Monochrome
GEC Radio & TV	22	Colour	Pye	22, 26	Colour
GEC, Telecomms.	16	Monochrome	Rank	26	Colour
ISE	14	Colour*	Rediffusion	20, 22, 26	Colour
IIT	16, 26	Colour	STC	7.5	Monochrome
Jasmin	14	Colour	Sony	14	Colour
Kirby Lester	14	Colour	Thorn	14, 22, 26	Colour
Philips	22, 26	Colour	Thorn	14	Monochrome

* Coin-operated.

Source: Post Office.

at present. The market is also expected to remain predominantly a rental one for the immediate future. Prestel sets have been in production for only a short time and have an unproven reliability records.

Development of Prestel sets is expected to result in improved software, making them easier to use and more versatile. In addition, a new generation of business sets is expected to emerge shortly equipped with input/output ports making possible connection to peripherals like hard-copy printers. There are also plans to give the sets expanded local memory, enabling a user to perform calculations on them as he would on a computer terminal.

Box returns

Interesting possibilities have been opened up by the development by CAP-PPP, a British systems house, of a system known as Telesoftware. This will permit a Prestel user to call up from the central computer a ready-made programme for performing tasks such as payrolls and preparing income tax returns. The programme would be stored in a memory built into the set for as long as it was needed.

The Post Office is doing its best to promote Prestel among home users. At the end of this month it is launching a £3m advertising campaign.

It forecasts that by about 1983, home users of Prestel will outnumber office subscribers. The manufacturers are more sceptical. IIT's Commercial Intelligence Unit forecast recently that in 1985 there would be about 800,000 viewdata sets in operation or on order. But it expected that only about 10 per cent of homes with telephones would be equipped with sets by then and that many of these would be used by businessmen.

Guy de Jonquieres

A VIEWDATA SYSTEM FOR BUSINESS USE

mistel

THE MOST SOPHISTICATED PDP-11 VIDEOTEX SYSTEM AVAILABLE

Softplan is the leading Finnish software house specializing in systems programming and applications where high software quality is particularly important.

Softplan has developed, together with Sanoma Publishing Company, the Helsinki Telephone Company and Nokia Electronics one of the first viewdata systems in the world - TELSET. It is compatible with the British Post Office viewdata system and has been in experimental use in Finland since 1976. A recently established viewdata company will soon inaugurate a public TELSET service.

MISTEL is a system built on TELSET and intended for business use. It provides an inexpensive way of distributing information to all those needing it inside the company, at the same time ensuring that the management retains control of confidential information. MISTEL can be used either as an independent data collection and reporting system or as an extension to the company's other data processing systems. A MISTEL system can be linked up with other MISTEL systems or with public viewdata systems.

MISTEL FEATURES:

- In addition to conventional viewdata retrieval methods, search by keyword and search by user-defined automatically generated directories, are possible.
- Interactive processing is easy with user-prepared service programmes which can be used with any page. These "action frames" provide a convenient means for the use of MISTEL in various applications.
- On-line updating of the data base.
- Automatic refreshing of the page on all user displays when the data base is updated.
- Pages can be generated automatically from source data with MISTEL utility programmes. This feature is useful when the MISTEL system is linked up with the company's other data processing systems.
- Pages can be defined so that they are updated automatically when data relevant for the page is entered. For example, hierarchically cumulative reports can be produced by entering the lowest level data items.
- Message switching.
- Powerful editing and graphic utilities.
- Can be run on DEC PDP-11 (RSX-11M) series minicomputers.
- Also available for use with Honeywell Level 6 minicomputers (from the end of 1980).

For further information, please contact Mr. Seppo Laube-Pohto, Export Manager, after April 7th, telephone Helsinki (90) 692 6611.

Softplan was established in 1973. The company employs over 60 experienced, university-trained software engineers. In 1979 turnover was £ 1.5 million. Softplan belongs to the Nokia Group which, with a turnover of more than £ 400 million and over 16,000 employees, is one of the largest industrial concerns in Finland. The activities of the Nokia Group cover forest industries, rubber industries, metal industries, electronics and plastics. Nokia has plants and subsidiaries all over the world and its products are sold in more than 60 different countries.

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It's our special Prestel Viewdata Colour Set. For instance the set has a memory, which means you can store your four most used pages and call them whenever they're needed.

You can also select your next ten favourite pages and programme them with a direct page key to recall their numbers at any time. It's your own mini Prestel directory on the screen.

And in both cases you save time and money by not going through all the unnecessary pages to get to the information you want.



Then there's something that's really ingenious. As an optional extra we supply an audio tape recorder which, when plugged in, allows you to record unlimited pages and recall them at will, on the screen. And you can save even more money by recording at off-peak phone time and recalling at no charge. Clever isn't it?

Finally, don't forget that this set can receive all normal TV programmes in colour* and can also link up with video recorders, to give you a full record and play-back facility.

And the cost? Well, we think you'll be pleasantly surprised. Ring Paddy Roache on 01-894 6566 or return the coupon and we'll send you all the information you need. We can't claim our terms are lower than others but we can claim our Prestel sets will save you more time and money than others.

See us on Stand 71 at Viewdata 80
*Receiving and playing back of recorded TV programmes only - see Copyright Act 1956.
Please send me information on your Prestel sets I'm interested in (receiving sets (indicate number)).

Name _____
Position _____
Company _____
Address _____
City _____

Radio Rentals Contracts Ltd.
Apex House, Twickenham Road, Putney, London SW15 2NU

UPK 1015A

VIEWDATA IX

UK leads the battle for exports

THE INTERNATIONAL marketing of Prestel is taking place at three levels. There is the direct sale by the British Post Office of the Prestel software and system, exactly as operated in Britain, to other countries. So far the P.O. has made sales to Holland, Germany, Switzerland and Hong Kong, and is busy marketing to many other countries.

Secondly, the Post Office has given a licence to Aregon, known until the other day as Inscac Viewdata, the National Enterprise Board viewdata software subsidiary, to rewrite the system for different computers and sell it abroad, principally in the United States. There, Aregon has made one significant sale, to General Telephone and Electronics, but it is not yet clear how GTE, in partnership with Aregon, intends to operate its viewdata system.

Thirdly, the Post Office has given a contract to Logica, the computer consultancy firm, to develop and manage Prestel International. As its name implies, this is to be a service based on Prestel computers in London but marketed and used internationally, in the first instance by multinational companies. This year is to see a market trial of Prestel International, to determine the viability of the idea.

Potential

Thus there has been from the very beginning a strong awareness of the export potential of Prestel and of the know-how that went to create it, plus an awareness that the export advantage of having the first operational viewdata service will not last for ever, with a lead of perhaps two to three years over other countries. Britain has the chance, first, to sell its system to other PTTs who want to get quickly into the viewdata act; and secondly, to establish the British technical standards, or something very like them, as the international standards for viewdata. This would in itself be a great advantage to British firms making viewdata hardware, peripherals, receivers, and offering extra software and consultancy services, besides the extra revenue it would generate for the Post Office itself.

But it is already clear that a battle for international supremacy is under way, not unlike the battle that took place over colour television systems. The French, in particular, have created their own viewdata system, incompatible with the British one, and have forged an alliance with the

Canadians, who again have written their own system. The French have been actively demonstrating their system at exhibitions and conferences in competition with the British Prestel team.

Even though there is not yet an operational or trial service in France itself—one starts in the Velizy area outside Paris at the end of this year—there is no doubt that the French hope that some of its superior features, like better graphics, will in due course give it an edge in export markets. The Finnish Teletel system, a small scale but successful viewdata project, was also created by a local consortium.

The sales made by the British Post Office, either directly or through Aregon-Inscac, are therefore important moves in this competitive game. There have, it is true, been some rather odd cases of the P.O. and Aregon competing for the same contract, just as there are cases where an overseas PTT may have to choose between buying Prestel from the P.O. and making use of Prestel International for its trial viewdata service. But on the whole the three-pronged approach seems to have produced positive results.

It should of course be made clear that sales of the Prestel software do not necessarily imply that the overseas country in question will continue to use the British system indefinitely. The Germans, for example, having bought and slightly modified Prestel for their own market trial of viewdata, are quite explicit that one of the functions of the trial is to determine whether, and how, Germany should subsequently write its own viewdata system. The Germans, like the French, are keen on the idea that viewdata should in due course become wholly or mainly a "front end" or "gateway" for computerised data held by the information providers on their own machines.

The viewdata computer then simply receives the user's inquiry, routes it to the relevant computer, receives back the answer, re-formats it in the viewdata style, and displays it to the inquirer. Though this idea is part of the long term thinking of the British Post Office, it is not part of the near-term development programme. So it is quite possible that the Germans will in two or three years' time go their own way.

Thus there may be a one-off opportunity to make sales of Prestel, and to attract overseas

users to it, along with a chance, that may not be repeated, to establish British viewdata manufacturing, software, service and information companies on the world scene. A few years from now the environment will be more rather than less competitive.

Thanks to the fact that many countries use the Roman alphabet or close variants of it—the Japanese have their eye on those countries that use different alphabets, and it would be rash to suppose that they will not succeed—there is a receptive international market to systems, and data, in the English language and style. The critical thing now is to ensure that Prestel works successfully as a public service in the UK. Failure in the UK would effectively put an end to the international opportunity, and destroy the international credibility of Prestel and all those suppliers and service companies associated with it. By the same token, even reasonable success in the UK over the next one to two years, while most other countries are still in their market trials and in the throes of making their decisions about what to do afterwards, would put British know-how and expertise in an almost unassailable position as world leader.

Competition

For it is equally clear that there has arisen a sort of competition between PTTs to keep up in the viewdata race—a competition sparked off by the British Post Office. What the BPO had, the other PTTs felt bound to have as well; or at least felt bound to give it a try. And there are a lot of PTTs in the world: therefore there is potentially a huge market in viewdata systems and the hardware, software, services and (not least) information needed to make them work.

There are, however, two noticeable gaps in the international viewdata scene at the moment. One is the Arab world, where for all their wealth and keenness to be in the van of new technology (and of new expensive toys, which viewdata can be as well), there has not yet been a sale of Prestel. However, Cable and Wireless for one has been interested in promoting viewdata in this area, and with its status as an international telecommunications operator, it bids fair to become yet a fourth arm of the international marketing effort for Prestel-viewdata.

The other gap, paradoxically, is the United States. The exact chain of events there is described elsewhere. But the fact is that viewdata has not yet really caught on in the U.S., despite interest by such organisations as GTE and Knight-Ridder. Whatever the reason, it must remain a serious hiatus in world viewdata development. Continuing caution in the U.S. would certainly affect world opinion in the long run.

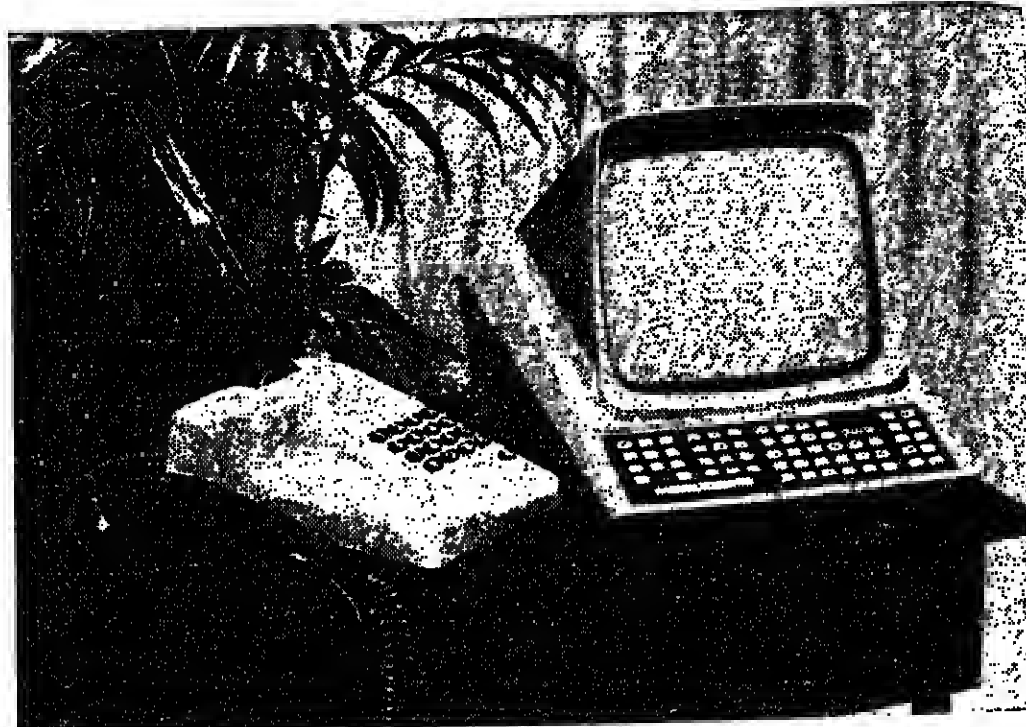
For viewdata is, essentially, a world market that knows no frontiers. It may be true that national PTTs serve national interests and set up viewdata systems on a national basis. But the technology is, or easily can be, international. Unlike printed products, which have to be shipped in bulk and expensively, from one country to another, viewdata pages can be shipped by telephone line, magnetic tape, floppy disc or other easy means from anywhere to anywhere.

Viewdata receiver sets can in principle (unless individual countries deliberately chose to put obstacles in the way) dial in to viewdata computers anywhere else in the world, either at the relevant long-distance call rates or, one hopes in the future, via dedicated lines and nodes that offer cheap international data access.

There are problems about the trans-border flow of data, such as privacy, copyright, and rules governing advertising. But like computers and calculators before them, viewdata systems are true citizens of the world, and in a very simple sense, that defines the marketing challenge and opportunity.

So far, the British Post Office has shown considerable entrepreneurial flair in seizing this opportunity and enabling others to seize it. But the French, for one, promise the British a close contest.

R.W.



The French Annuaire Electronique TRT system

France develops separate system

FRANCE'S VIEWDATA plans revolve around an ambitious project, unique in the annals of viewdata so far, for an electronic telephone directory that will replace the existing printed telephone directories in millions of French households over the next 15 years. Using a screen that is essentially a viewdata screen, the telephone subscriber will be able to quiz a Post Office computer for the telephone number that he or she wants, instead of thumbing through the printed directory.

The French reckon that in mass production these small-size viewdata terminals for the home will be at least as cheap as the bulky printed directories they replace, and will have a much longer life and provide a better service to the customer, since the computer can be continuously updated. This will also save on the time and salaries of people employed to answer directory inquiries over the telephone. The pilot project will cover 250,000 subscribers in the Ile and Valaine area of France from 1982 onwards.

If this project succeeds—and its critics say that no computer information retrieval system on that mammoth scale has ever been made to work before, so the proof of the pudding remains very firmly in the eat-jog—then it will in effect place a viewdata information terminal in most French households, on Government initiative, over a known period of time. This terminal can then be used for other types of information.

Residential

This will be almost exclusively a test of residential use, as opposed to business use, and will involve about 3,000 households, if present plans are fulfilled. Another aim is to use the Teletel computer centre both as a place where information providers (IPs) can store information that the customers may want, and as a gateway to data held on the IP's own computer. One important aspect in which French plans differ from British plans is that they intend viewdata eventually to perform wholly as a gateway of this type. If these plans succeed, there will in due course be no direct manual editing on to

French viewdata, although this will remain the normal method of input in the UK for some years to come.

The other major divergence from the UK is that the French have written their own viewdata system, perhaps in part for nationalistic reasons, but anyway technically incompatible with Prestel until such time as international standards for viewdata are established.

In certain respects the French system is superior to Prestel, for example in the quality of its graphics and in the ability to make groups of pages "roll" automatically in sequence without further pressing of buttons on the keypad. But it is still a laboratory system, untried in practice, and it remains to be seen how many of these superior features survive the acid test of a real viewdata service.

It is true to say of Britain that the early experimental system in the laboratory had superior features, like the sending of messages from one user to another, that did not survive the transition to a full market trial.

But what is certain is that the French see themselves in direct competition with the British in world markets for viewdata systems. They have been

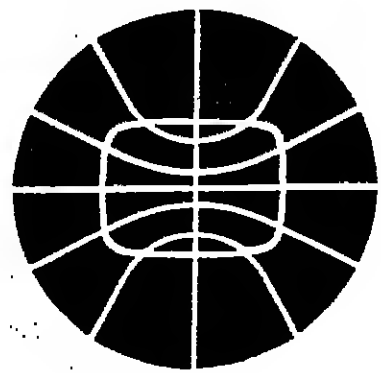
actively promoting their rival system at demonstrations, exhibitions and conferences, with a view to making sales to rival the successes, detailed in another article, of the British Post Office in selling the Prestel software to several other countries.

Canadian link

The French have also forged an alliance, whose direct consequences have yet to be seen, with the Canadians, perhaps in an attempt to consolidate an anti-British front. The Canadians have also created their own—or several of their own—viewdata systems, and have a strong interest in selling to world markets.

What is clear in France is the strong political and Government commitment to the development of viewdata as part of the "informatisation" of French society—an effort to catch up and surpass other countries in the increasingly important area of information collection and transfer by electronic means. Perhaps paradoxically, strong commitment by the French could be of benefit to the UK as well, by demonstrating internationally the capabilities and scope of viewdata.

R.W.



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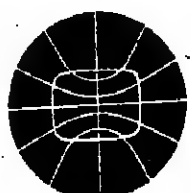
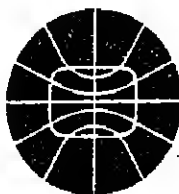
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VIEWDATA X

Slow response in America

THE UNITED STATES is remarkable for the caution with which, on the whole, it has approached viewdata. This is for a mixture of technical, regulatory and patriotic reasons. There are viewdata experiments planned or in progress, but they do not represent as yet a significant degree of commitment.

The major event for Prestel was the sale last year to General Telephone and Electronics, the second largest U.S. telephone company, of a rewritten version of the Prestel viewdata software. The sale was made by Insac Viewdata, now known as Aregon, acting as licensee for the British Post Office. The software was rewritten for use on DEC computers, as opposed to the GEC computers that are standard in the UK.

Activities
GTE has also acquired in the recent past a packet switching network, Teletel, and is a manufacturer of television sets in its own right, under the Sylvania label. So GTE seemed to be in the process of setting up a new range of information activities that at least included the viewdata concept.

Later there was an announcement that over 20 well-known American companies had signed up as users of the GTE system, which was in effect to be operated jointly with Insac/Aregon. These companies included Chase Manhattan Bank, J. Walter Thompson, McGraw Hill, Time, and Merrill Lynch. Each company was to have up to five terminals connected via Teletel to the computer.

However, since then it has been reported that the management team responsible for view-

data at GTE has been reshuffled, and it is hard to discover quite what concrete plans are in fact being made to develop the GTE-Aregon contract.

The other company that has shown an active if low level interest in the viewdata concept is Knight-Ridder, one of the largest and technically most progressive of the U.S. newspaper chains. It has gone its own way by designing a viewdata system of its own, and setting up a separate subsidiary company called the Viewdata Corporation of America, to operate it.

A trial of the system is being implemented in a rather small number of (presumably affluent) homes in the Coral Gables area of Florida, not far from the Miami headquarters of Knight-Ridder. It is said to involve only about 30 receiver sets revolving around 150 households.

In the eyes of some observers, the smartest thing that Knight-Ridder has done so far is to acquire the name Viewdata in their subsidiary company's title. This caused some frowns at the British Post Office and at Aregon, since the Knight-Ridder design has no connection with the UK or with Prestel.

On the other hand, even if the motive of Knight-Ridder may be defensive as much as offensive to defend its market against future inroads from electronic information systems, it has at least shown that a major publisher with substantial in-house technical resources can independently get into the viewdata business if it wishes. This is also demonstrated by the Sanoma publishing group of Finland, which is a partner in the Teletel viewdata system locally designed and now oper-

ating in that city, and also by the purchase by VNU, the large Dutch publishing group, of its own viewdata system from Britain.

The other U.S. viewdata project is known as Green Thumb, and is run by the U.S. Department of Agriculture. The aim is to give farmers information about weather, crop conditions and other matters of direct relevance to them. This is to be done by means of a special add-on box to the television set.

Again, however, the scope of the initial trial is limited. About 200 farmers' homes in Kentucky are to be tested out this year,

and there have been delays and problems. However, if it works, Green Thumb could obviously be a practical demonstration and implementation of the viewdata idea.

But over everyone there hangs the big question—what, if anything, will AT & T do? As by far the largest U.S. telephone company, it is technically in a position to develop, or reject, viewdata and influence almost everyone else's attitude towards it. But there are problems connected with federal regulations governing AT & T's services, in particular the 1956 consent decree that barred

AT and T from operating data processing services.

Significantly, however, AT & T has announced a small experimental project not unlike the French electronic telephone directory, using a small black-and-white terminal to answer inquiries about telephone numbers. But overall, AT & T's attitude to viewdata must derive from the general debate, inside the company and outside it, about AT & T's role in the quickly developing world of computer communications.

The U.S. is in any case a highly competitive environment in which to launch new information services, with far more options about how to implement

them. There is also one fundamental difference in telecommunication policy between the U.S. and Europe. In Europe, telephone calls are usually paid by the user, and the authorities have a financial incentive to increase the number of telephone calls made, for whatever purpose. In the U.S., you usually pay one set price for use of your telephone, however many calls you make. Therefore one of the fundamental ideas of viewdata in the eyes of European authorities—to increase telephone revenues—simply does not apply to most of the U.S.

R.W.

Alphabet game in Japan

JAPAN'S experiment with viewdata began in December, with a system called CAPTAIN, the initials of Character and Pattern Telephone Access Information Network. It involves about 1,000 households in the Tokyo area, with 150 or more information providers (it is odd how almost all viewdata systems seem to attract about the same number of information providers at their trial stage) and perhaps 100,000 pages of information.

CAPTAIN has at least one distinctive feature when compared to European viewdata systems. The Japanese language uses Kanji characters, adapted from Chinese, and about 3,000 of these are in daily use (the grand total is many thousands more). Use of any Japanese keyboard for typing, typesetting or computer work, is therefore a highly skilled and specialist activity, demanding great concentration by the operator.

Also, it is virtually impossible to build a character generator inside the TV set, which would satisfy this enormous requirement. Therefore, CAPTAIN generates the characters, not locally in the TV set, but centrally in the main computer system and then transmits them to the TV receiver. This makes the whole configuration different.

Secondly, many of the information providers' hard-ware contributions are do-it-yourself. For example, on newspapers and then send this handwritten copy to a central team of keyboard operators to enter into CAPTAIN. This in itself places limitations on the speed of input and update to the system.

Another difference from the UK system is that CAPTAIN is not strictly speaking being run by a telecommunications authority like the British Post Office. Instead, the Japanese have set up a special organization called the Captain System Development Institute to run it.

This is an attempt to insert a relatively neutral observer in among the various committed parties. But it does not imply anything about the way that CAPTAIN will be run when and if it becomes a full public service.

There is no doubt that the Japanese were in part motivated by competitive zeal when they saw the efforts of the British Post Office in setting up Prestel. There is also a keen commercial motive—the desire to capture the market in viewdata equipment and know-how in all those countries that do not use the Roman alphabet but some sort of complex system of characters such as the Japanese, Chinese and many other Far East languages do.

The information providers, however, share a refreshing doubt with their British counterparts about exactly what information will be the most suitable for viewdata transmission. This matter is earnestly debated the world over, and no one yet knows the final answers. It is still, everywhere, a technological system.

The information providers are also a dissimilar bunch, as in Britain. They comprise newspapers and other traditional publishers, travel agencies, department stores, railways and

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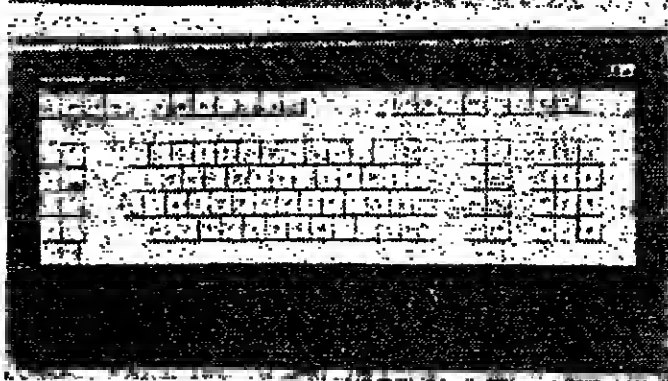
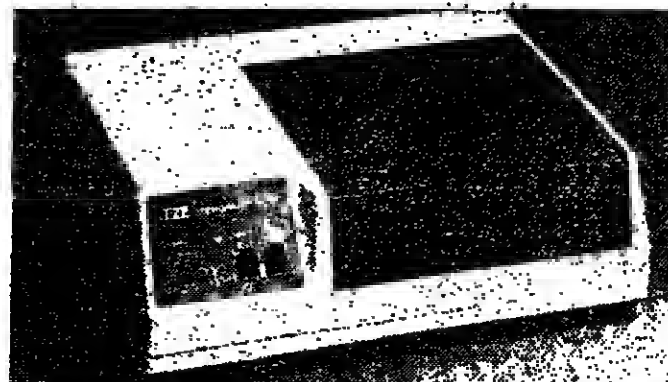
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The ITT viewdata printer VMP 1 (above) will print a viewdata page in 18 seconds. Below: an ITT editing keyboard designed for information providers

VIEWDATA XI

W. Germany takes Prestel

WEST GERMANY has bought the British Prestel system for its trial of viewdata, or Bildschirmtext, as it is called in German. But the German Bundespost, or PTT, has made it quite clear that on the basis of the trial and the evidence produced, it may well create its own viewdata system for long-term use. Meanwhile, it has employed Aregon-Inasac to help adapt Prestel to German circumstances.

Unlike Holland, which can use the standard British alphabet, the German language has a number of individual characters of its own, such as the vowels carrying the umlaut and the double S. German is therefore one of the languages, French being another, which raise the question of what an internationally acceptable character set for viewdata should contain.

The German market trial was scheduled to start at the beginning of this year, but appears to have slipped back to about May-June. Meanwhile a so-called "technical trial" has been in progress, during which information providers have been able to experiment with their pages on Bildschirmtext.

This technical trial was especially useful for the huge Radio and TV Exhibition, or Funkausstellung, in Berlin last August, where German viewdata made an impressive public debut. Many suppliers featured viewdata receiver sets, and the Bundespost had a large and crowded hall almost entirely devoted to it. Information providers mounted a special effort for the exhibition, which must be counted as a significant public relations success.

The market trial itself is to be conducted in two centres, Berlin and Düsseldorf-Neuss. The idea, roughly, is to have a technical trial in one place and a market-acceptance trial in the other. The two computer centres will be linked, with the possibility of different material residing on each.

Many newspaper and publishing groups have taken a far more serious view than their UK counterparts of the development of viewdata and teletext—or inter-active and broadcast videotext, to use the standard continental terminology. It is seen as a potential threat to newspaper economics. The newspapers have sought in contrast the right of the broadcasting organisations to have a

monopoly over teletext transmissions, and went as far as to mount their own "screen newspaper" demonstration at the Berlin exhibition.

The polarity between broadcasting organisations, as organs of the State, and newspapers, as privately-owned bastions of free enterprise, is more acutely felt in Germany, in part for historical reasons. German publishers are at times critical of UK publishers for not making more fuss over the BBC-TV monopoly of teletext in the UK, confirmed by the recent Annan report on broadcasting.

Close ties

However, German newspapers have been joining in the Bildschirmtext development in considerable numbers, very much on the theory that what the public reads on viewdata should be closely tied to what they do or can read in the main newspaper. Therefore the viewdata pages must be clearly an extension of the newspaper pages.

The other item of note on the information provider side is the excellent series of graphics created by a German institute, the Hochschule für

Gestaltung in Offenbach am Main. These stretch to the limits the capacity of the Prestel graphics facility, and are perhaps more impressive and original than any other graphics on any Prestel-style system.

Whether there will be a commercial application for graphics of this quality remains to be seen, but the HFG pages are another impressive demonstration of what viewdata can do.

In the longer term the German authorities are also quite clear that they do not intend to build up a large network of viewdata computers. Here their philosophy echoes the French rather than the British. The long-term intention is to use viewdata as a gateway between the user and computerised data held on information providers' own machines.

Whether this ambition can be squared with the desire of the newspapers to treat Bildschirmtext as some sort of edited version of the newspapers is another matter than remains to be seen. In all viewdata developments there is some latent conflict, both technical and economic, between those who see viewdata as a computer net-

work (and therefore eminently suitable for systematic data such as timetables, house-for-sale lists, perhaps classified advertising) and those who see it as a publishing medium by which human beings talk to other human beings in the less systematic manner of normal human communication.

Various hurdles still remain in Germany, such as the passing of the necessary laws in the relevant Länder, or state, and the organisation of a reliable supply of receiver sets; and computers in Germany, as in the UK, still have a terrible habit of going down. But the level of interest, and the scale of potential investment by the various parties seem to augur well for Bildschirmtext, at least at this early stage.

R.W.



Viewdata was introduced to Germany at the international Radio and Television Exhibition in West Berlin last August. West Berlin's mayor at the time, Klaus Schütz, points to the screen watched by the West German Post and Traffic Secretary, Kurt Schütz.

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R.W.

Dutch to run market trial

HOLLAND has bought the UK Prestel system and is running a market trial from about August of this year with 100 or more information providers. This trial, run by the Dutch PTT, is now known under the name of Viditel.

But one unusual peculiarity of the Dutch scene is that there is another viewdata system being run by one of Holland's largest publishers, VNU. This is also the Prestel system bought from the UK, with extra modifications done by Aregon-Inasac.

There is therefore the interesting spectacle of two more or less identical viewdata systems going into operation at more or less the same time in the same country, one from a public operator, the PTT, and one from a private operator, VNU. What remains to be seen is whether they compete with one another, in terms of information providers or users of applications, or whether they arrive at different spheres of application.

VNU itself will be a substantial contributor to the PTT system, and the PTT Viditel system may be one route, or even the main route, into the VNU system. So it seems a fair guess that the two systems will in due course settle down to some form of co-existence.

R.W.

in Holland also. Given the technical similarities of the systems, and the geographical proximity, this seems an obvious move, and it would be surprising if Dutch information providers did not appear on the UK system also (there already have been one or two, such as the newspaper De Telegraaf). The UK companies on Viditel include Barie and Fintel.

What is to the outside observer rather less obvious is the reaction of the Dutch press to Viditel. In the UK certain newspaper publishers, in particular the Birmingham Post and Mail, Eastern Counties Newspapers, and the Financial Times (through Fintel) have made substantial investments in Prestel and other viewdata activities, and other groups like the Scotsman have more recently followed suit.

But many newspaper groups have stayed outside this development, or are at least waiting.

Single service

The Dutch Press has however tried to get together to form a single large all-embracing information service on Viditel, under its own separate name of Krantel. This would have an information structure that embraced all the newspapers, as well as the national news agency ANP, each with its own allocated slot under the individual newspaper's title within the total design. Thus the Krantel database on Viditel would mirror the structure of the Dutch Press itself.

This is one way of getting newspapers as a whole to take an interest in viewdata developments, and of making sure that they make a coherent contribution to it. On the other hand, many fear that the users will be confused by the welter of different newspaper titles that they will be confronted with on the screen.

Holland will therefore be the testing ground of several unusual features of viewdata that need not be unusual if they work. There is great interest in viewdata in Holland, as witnessed by conferences and seminars, and both the money and the motivation to make it a success.

R.W.

Canada divided over the way to advance

CANADA, which has on the stocks several different trials of viewdata, notably in Toronto, Manitoba and Alberta, is the cradle of two quite distinctive theories about the purpose and direction of viewdata development. One is that high quality graphics are of central importance to public acceptance. The other is that viewdata is not primarily an information medium, but a functional medium for practical applications like monitoring burglar alarms, electricity meters, central heating and other items of domestic management. Information as such is a secondary use, if it exists at all.

It is fair to add that this view is largely possible because in many cases viewdata will operate across cable networks rather than the ordinary switched telephone network.

But the question of what will finally establish viewdata in the minds of the public as a useful adjunct to their lives, is of world-wide significance. In the

UK there is the equally relevant question of whether it is the genuinely inter-active features of Prestel that will really make it popular in due course—that is, the active use of the response frame mechanism whereby people can order goods and services and answer back to the computer with messages and memoranda for other people, in a version of electronic mail.

Prominent

Thus the Canadian concept is no more than an extension of this broad question about viewdata, and it is notable that in the French Teletel trial, for example, inter-active features, like quizzing your bank account or ordering a train ticket, also figure prominently. This may in part be the reason why the French and the Canadians have sought an alliance in viewdata development.

Equally interesting is the question of the role of graphics. The Canadian Government

through its research laboratories has sponsored the development of a highly sophisticated graphics system on viewdata, known under the name of Telidon. Basically, this splits the TV screen into far more separate components than Prestel at present does, and therefore allows far finer definition of the pictures and graphic effects that you are seeking to reproduce on the screen.

It is, in effect, the only truly pictorial viewdata system in existence at the moment, since all other systems are more or less restricted to geometrical and near-geometrical shapes and approximations. The Canadians achieve this effect, in part, by building intelligence into the terminal itself, thus enabling it to interpret a far larger quantity of pictorial instructions. Having intelligence in the terminal is of course also a major step forward in viewdata development, since local intelligence can be used for many other purposes,

also. But it does make Telidon more expensive, indeed considerably more expensive. It is a question of the trade-off, in the public's mind and purse, between sophistication and expense. It is also fair to add that Telidon has yet to be tried out on a large scale. The biggest Telidon trial so far planned will be the Vista project, in Toronto and Montreal, run by the Bell Canada telephone company. This is due to start in about nine months' time, with perhaps 500 terminals.

The Alberta trial, under the name of Vidon, is to start with 100 terminals, and will rely on a dedicated cable network using a packet switching style of transmission. Manitoba has, in fact, two projects under way. Project Ida in Winnipeg, again using cable, and another experiment in the town of Elm using fibre optic links.

Lately, a new experiment has also been announced in New

Brunswick, called Project Mercury, with about 30 terminals routing round 75 homes and businesses. The range of services offered on this experiment are said to include fire and burglar alarms, medical alert, energy management and automatic telephone testing.

More trials

It seems likely that more trials will be announced in due course in the various states of Canada, making at least half a dozen viewdata "experiments", largely using Telidon and with a heavy emphasis on these various practical functions, but also with heavy reliance on cable or other high-grade links. Thus, much should be learned about a substantially different line of viewdata development, although the trials in themselves are small scale and late compared to this week's public launch of Prestel with well over 2,000 terminals already out in the field.

Two of Canada's most pro-

minent newspaper companies, Sunbeam and Torstar, have formed a company to exploit viewdata jointly. With other companies also interested there should be no shortage of information provision to get the various projects going. This level of activity is in some contrast to the comparative lack of interest south of the border in the U.S.

With extensive oil revenues to draw on in at least some states, and new housing and office developments into which new systems of communication can be built, like fibre optics and cable, there is clearly an opportunity for Canada to explore avenues largely denied to the UK. On the other hand, what is proved or disproved in Canada, with its particular circumstances, may not have all that relevance to much of Europe, with its different technical and economic infrastructure.

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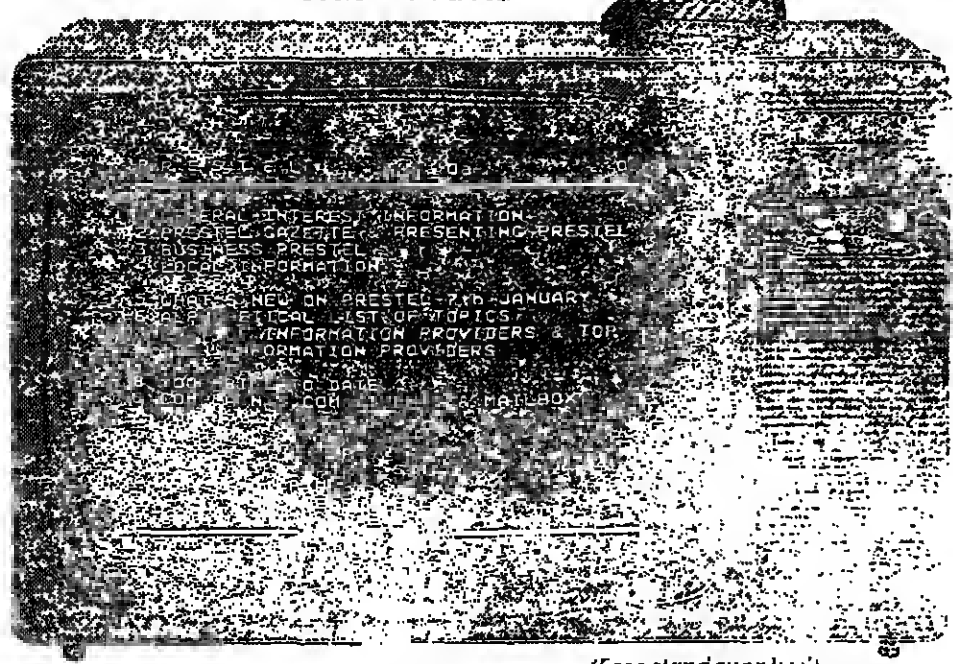
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VIEWDATA XII

Society on the brink of change

BY THE end of the century it is quite possible that viewdata will be so enmeshed with everyday living that people will wonder innocently how we ever did without it. Indeed, it is not silly to speculate whether, in retrospect, viewdata will be seen to be as significant an invention as Caxton's development of printing.

Electronic publishing is not expected to replace all conventional printing, at least not in the foreseeable future, because it is unlikely that people will choose to read a novel or even a lengthy article by watching flickering characters on a television screen.

On the other hand, a very wide range of information services and advertisements could soon start to forsake the traditional printed media in favour of electronic means of dissemination. Classified advertisements, for example, would appear to be well suited to viewdata systems, and eventually it would be possible, in theory at least, to transmit whole newspapers by electronic means. Subscribers could either read them on a screen or, more likely, have the sections they require printed out on private teleprinter attached to the television set.

The technical advantages of electronic publishing are considerable. The first is speed and flexibility. It would be feasible, for example, to flash a classified advertisement on to screens in all or part of the country only a few minutes after a customer had telephoned the advertisement to a bureau.

Another important advantage

of viewdata systems over conventional publishing is that they allow two-way communication. A subscriber can use his remote-control keypad to send back information to the system in the form of "yes" or "no" answers to questions or numerals. Eventually the addition of typewriter-style keyboards will allow users to send quite sophisticated messages back to the viewdata computer. Already it is technically possible for people to make purchases through viewdata by keying in their credit card numbers in response to an advertisement.

Direct response

This idea could no doubt be extended so that people could make airline, rail and hotel bookings from their desks or armchairs and perhaps even respond directly to some types of private classified advertisement. By this means the convenience and speed which are taken for granted in airline booking systems could be extended to a wide range of more ordinary transactions.

These immediate advantages of electronic publishing should be compounded by the general trends of computer and telecommunications technologies which should enable information to be assembled, organised and displayed with greater and greater sophistication and quality. Since all the information on a viewdata system is stored in a computer, it should be possible to devise methods for reorganising the same information in a large number of different ways, which are not possible with printed material.

One obvious example would be a system for organising classified advertisements according to the wishes of a customer. A househunter, for example, might tell the system that he wanted a three bedroom modern house with a garden for less than £40,000 within 20 miles of Shrewsbury. The computer would list any such houses that were in its memory.

The British Post Office's Prestel system is not organised at present to provide this degree of flexibility, but there is little doubt that Prestel or other viewdata systems will be able to provide this type of service before long.

Prestel can, however, already be used for providing tailor made travel information if it is hooked up to a minicomputer in a travel agent's office.

Since small home computers can already be bought for as little as £500, it is not fanciful to believe that viewdata systems will rapidly evolve from being information services to being networks of living room computers attached to an extremely large central warehouse of information and programmes.

It is then a small step to foresee that the major banks, building societies and other major institutions will be linked into the system to provide rapid, detailed and sophisticated transactions with millions of home and small office computers. Statements and invoices could be sent to customers via the system, especially if the home computers are equipped with simple printing devices. Then instructions to the bank or

building society could be relayed direct using the national network.

Home computers could also be used for a range of educational and leisure pursuits by taking data and programmes from a national library. It is even possible that sophisticated programmes for medical diagnosis or legal advice could be relayed from the central library over the viewdata link into a home computer.

Large capacity

Sceptics may wonder whether enough people will want to have computers in their living rooms or offices to make these ideas workable. However, the advances of microelectronics technology has been so rapid that the processing section of a quite powerful computer can already be etched onto a chip of silicon a few millimetres square. Within five to ten years, many factors will be offering television sets which are not only equipped to receive Prestel, but have considerable computing and memory capacity. These sets need be no larger and not much more expensive in real terms than ordinary colour sets were when they first appeared on the market. Optional extras like printers and magnetic disc memories will at first be quite expensive, but will clearly come down in price as they start to become mass-produced.

Mass production is indeed the key to the development of Prestel and other viewdata systems.

The Post Office needs a large number of users to amortise the capital costs of establishing a network of viewdata computers.

Information providers are even more dependent on the system achieving a large number of subscribers since their revenue is directly proportional to the frequency with which their information is inspected. Set makers most of all are locked into the problems of how to generate the high demand for Prestel sets which will enable them to price the sets for a mass market.

These are the inevitable difficulties of launching a new and quite unfamiliar system. However, once a take-off has been achieved, beyond, say, about 1m users it seems likely that the system could become rapidly cheaper and more competitive than more traditional media.

For, unlike a newspaper or magazine, viewdata will incur very small incremental running costs as it expands its circulation. Each additional copy of a newspaper requires extra expenditure on newsprint, ink and transport. However, the cost of sending electronic information to an extra subscriber is relatively small, especially as the capital cost of establishing a computer network is likely to remain stable or even to fall in real terms during the next decade. Transmission costs for telephone and computer information are likely to continue to fall as a result of technological advance.

The future of viewdata as a mass information system closely interwoven in the fabric of society, and probably altering many people's way of living, revolves, therefore, not so much round a question of "whether?" but of "when?"

Max Wilkinson

PROFILE: SAM FEDIDA

Post Office's guiding light for 10 years

IN YEARS to come, Sam Fedida will probably be called "the father of Prestel" just as today we think of Marconi as the father of radio, andabbage, the equivalent in computing.

Mr. Fedida is still very enthusiastic about viewdata, even though it is about 10 years since the idea was conceived. In his capacity as consultant to Aregon - the NEB subsidiary, originally called Insaac Viewdata - he continues to promote Prestel's use, especially overseas, to win valuable exports for the UK.

Mr. Fedida was born in Egypt, but came to Britain in 1935 to study for a degree in telecommunications at Imperial College, having won a royal scholarship. As soon as his course was ended, he was drafted into the RAF as a radar officer. After being "demobbed" in 1947, he then joined Marconi and was based in Chelmsford.

By 1955 he had moved to an assistant director of research at the Post Office which was interested in applying computers more effectively in research such as in automating experiments.

His objective at the Post Office was to improve engineering relationships with computing so he began his job by meeting with the heads of the various research departments at Marconi to discover what facilities they required, so that the system could be designed to suit the user rather than the other way around.

An enthusiastic response came from the head of the research department involved with the PO's viewphone system. He felt that viewphone - which allows people to see and hear the subscriber at the other end of the telephone - could be improved by extending the service so that subscribers could also receive written data through the special viewphone network.

Mr. Fedida considered the idea of putting information on the viewphone would be too limiting - because of the small audience and the expense of the system. He then began formulating ideas about a cheaper mass - information system, using the country's extensive telephone network. This was eventually to become Prestel, but in the early days it was called viewdata.

Mr. Fedida spent 18 months working out how a system could work, its specification and how to produce economically the software, i.e., the programmes used by the computer. He had to cut down the cost of conventional software by a factor of 10. His proposals were ready by early 1973 and by then he had four researchers working on the project with him.

By then, the PO had become aware of the work which was being carried out by the BBC and the IBA on teletext, which was being developed to provide a broadcast public information service.

In 1974, the PO and the broadcasting companies agreed to work out common standards for both systems so that any television set could receive information which had the same format. The British Radio Electrical and Allied Manufacturers' Association, which represented the television set makers, was also consulted.

By the end of 1974, the PO project team were ready to show working systems to various other groups within the PO and several papers were presented. The group even took some equipment to West Germany where they had shown interest in the system before a working demonstration was possible. The demonstration was impressive, since Mr. Fedida was able to show that distance was no problem - the computer was in London and telephone call was all that was required to set up a "division" in West Germany to the Prestel viewdata system.

Impressed

The Germans were impressed - they were the first to buy the system from the Post Office.

The following September, the PO was ready to show Prestel - then still under the name, Viewdata - to the world. A public demonstration was held at London's Heathrow Hotel. Afterwards, a working party was set up within the PO to see how the system could be developed: a market strategy was planned and a pilot trial was begun in January, 1976, to assess the reaction of potential users and the people who would ultimately provide information for the system.

The PO had decided that its role in the system would be to provide the medium for communications and would seek no control in the type of information which was stored on the computer. It would continue the policy to act as a "common carrier" since the PO had no interest in setting up new departments which would have to monitor the information which was being sold on Prestel.

During 1976, discussion continued about the standards required to produce the television sets to allow them to receive Prestel and the two teletext systems, Ceefax and Oracle. There were delays, inevitably, since there were many technical questions to be answered and action between manufacturers carefully co-ordinated. Meanwhile, the semiconductor manufacturers, who would have to supply the special integrated circuits for the systems, were urged to mass-produce the circuits and changes in specifications also led to more delays.

From the few television sets that were available - mainly in the hands of the information providers and the set and component manufacturers' experience was being gained on the shortcomings of the system, from the user's point of view. The information providers (IPs) were considering a vast array

of possible services for business and domestic users. The IPs were becoming anxious that Prestel, now formally launched, would not have the rapid growth of audiences they had anticipated because no one had started mass production of Prestel equipment sets.

But the marketing of Prestel by the PO was continuing outside the country. The U.S. and the Netherlands were among the first countries to see the potential of the system. In 1977, the National Enterprise Board set up a subsidiary, called Insaac, with the intention of selling British expertise in writing computer programs - software - overseas. It also took the marketing of Prestel under its wing.

In February, 1978, Mr. Fedida joined Insaac - now Aregon - as a consultant. He would have had to retire from the Post Office, anyway, on his 60th birthday that May, so he took the opportunity of continuing to work with the system being other countries to formulate policies and services.

He believes that viewdata is only in its infancy and that there are applications which we have so far not contemplated. It will take at least 20 years for viewdata to become a part of the social infrastructure, because present generations tend to regard anything associated with the computer to be a rival as far as jobs are concerned.

Mr. Fedida envisages that Prestel will eventually be just one of several viewdata systems operated in the country, all accessible via the telephone system, all of which will be simple enough for a child to operate.

At the moment, Mr. Fedida thinks that Prestel "is not free enough and is too tied to the PO paternal strings." Once freed, viewdata will be limited only by the designer's and the user's imagination.

E.W.



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EUROPE'S AGRICULTURE

NEXT WEEK, EEC Heads of Government meet in Brussels to discuss Britain's demands for a big cut in its net contribution to the EEC budget. This is now expected substantially to exceed 1.5bn European Currency Units (ECUs) this year—much more than is paid by any other member state. Its disproportionate size—Britain is the third poorest EEC member—is largely due to the Common Agricultural Policy. The non-budgetary cost of the CAP to the UK is estimated to be just as great again.

"The CAP is inefficient, extravagant and about to collapse under its own weight. The whole thing is getting absurd and it can't go on," Yanks, Aussies, Italians and Brits say it, even Chancellor Helmut Schmidt says it (as Cole Porter might have sung). Mr. Roy Jenkins has been saying it virtually since he became President of the European Commission in 1977.

Their opponents rarely bother to contradict them. They don't need to. The big farming co-operatives, commodity traders and food processing companies which are the most immediate beneficiaries of the CAP are satisfied that it is not in the least absurd—nor, it seems, in any danger just yet of the sort of reform which might undermine their position.

Critics of the CAP usually make some of the following points.

• Almost three-quarters of the EEC budget is used to buy, store or dump food surpluses grown by farmers, who make up less than 10 per cent of the EEC workforce.

• The wide gap between high EEC prices and world market prices distorts trade, producing huge resource transfers which never show up in the budget. (Recent estimates put 1978 balance of payments losses resulting from the CAP at 1.25bn ECU for Italy, 1.2bn for the UK and 750m for Germany, gains at 1.1bn for the Netherlands, 950m for Denmark and 850m for France.)

• High prices stimulate production at uneconomic cost levels and depress consumption, so that consumers lose more from the CAP than producers gain. (The 1978 net loss to the Community is estimated at more than 6.3bn ECU.)

• Dumping surplus food disrupts world markets, which annoys competing producers such as the U.S., Australia and New Zealand, and retards agricultural development in the Third World.

Peripheral

All these arguments have little impact on discussions between EEC governments in the Council of Ministers. Debate among Farm Ministers, for example, tends to be somewhat cruder, focusing all too often on butter exports to the USSR, threats to the British pig, lamb, wine, or the number of cows a farmer may have before he is subject to a milk tax. It suits politicians to present the CAP in terms of what are often peripheral battles because these are easily understood by the electorate and easily won. They also provide an effective smokescreen for some of the real interests vested in the CAP.

The Commission likes the CAP because it is the only major policy the Community has and does much of the work of other policies, which have failed to get off the ground. Pumping money into the food industry may be an inefficient way of stimulating regional

employment but the CAP is probably a more effective social and regional development policy than anything the Community has to offer under those headings.

EEC Governments like the CAP because it is a major force in preserving the present rural voting patterns. This is particularly the case in France, where President Giscard d'Estaing has a running battle with Gaullist leaders such as M. Michel Debré and M. Jacques Chirac for the hearts and minds of the farmers; and in Germany, where farmers have often given the impression that they control the Free Democrat Party through the formidable personality of Herr Josef Ertl, the Farm Minister, and that they sometimes come close to dictating Government policy.

Governments also like the CAP because it enables them to make large financial transfers which, in the general climate of fiscal restraint and spending cuts, might be politically unacceptable if exposed to the scrutiny normally afforded national budgets.

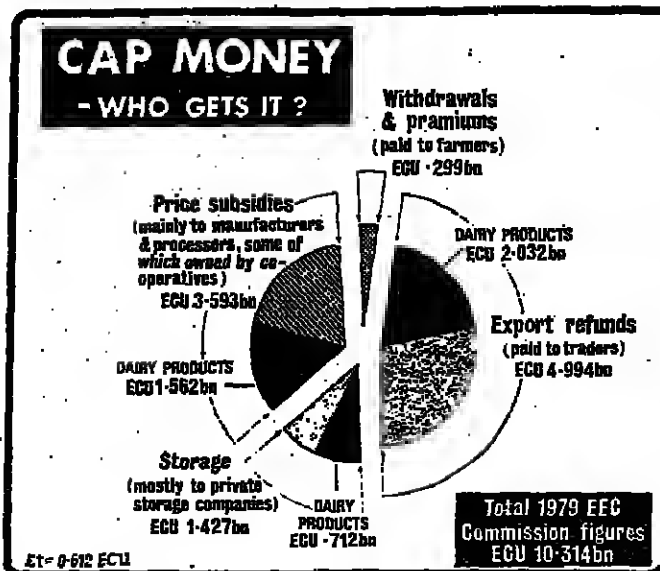
Price support acts as a big hidden subsidy to manufacturers of dairy equipment and other farm machinery, producers of chemical fertilisers, pesticides and compound feeds, railways and private transport enterprises. Intervention buy-

ing of butter and skimmed milk powder is a jackpot to private storage companies. Commodity traders make healthy profits speculating on the Community's export rebates and "green" currencies (the artificial exchange rates used to convert the supposedly common EEC prices into national currencies, maintaining what in effect are different price levels within the Community. Each percentage point added in Brussels to the farm support price strengthens political ties on a level remote from the farmer or the consumer.

Guaranteed

These interests rarely surface because of the way CAP money is distributed through the guaranteed price mechanism. The CAP supports a minimum price for farm goods—sometimes six times higher than the world price—by taxing imports and buying up surpluses which are then stored or exported at subsidised prices. But even in the days before currency fluctuations led to the introduction of green rates, breaking the price only of the Common Market, this system was less equitable than it appeared.

To begin with, equal prices do not benefit farmers equally—big farmers with economies of scale do better than small



ones, who have less scope to expand their production. Moreover, in most cases, EEC money does not actually go to the farmer. In the dairy and sugar sectors, the two biggest surpluses, the Community does not buy in until the raw product has been transformed into butter, skimmed milk powder or refined sugar. Cows have to be slaughtered and turned into carcasses before they are acceptable as beef. Olive oil has to be refined. The Community deals with the manufacturer and the abattoir, which pocket some of the payments to cover processing costs.

Except in the case of sugar, where the guarantee is limited by quotas and refiners must pay a minimum beet price, it is up to the farmer to negotiate his own sales price and get what he can from the manufacturer. Again, the big farmer or member of a big co-operative has the advantage. Small farmers do, nevertheless, benefit visibly from the guaranteed price system and would be the most obviously hit

if prices were cut. For years, governments have fought the case for higher prices on the basis of small farmers' needs—so successfully that price support now swallows 95 per cent of farm spending. But they come out in their true colours each time the Commission tries to weaken the price mechanism and rely more on direct or indirect subsidies to small farmers. A prime example is the Commission's latest attempt to deal with the milk surplus by slapping a high tax on increased production—and exempting small farmers. As with similar cases in the past, ministers say the plan "protects inefficiency at the expense of the efficient producer" and it already looks like a lost cause.

The CAP aims, so the Treaty of Rome tells us, "to increase agricultural productivity; to ensure a fair standard of living for the agricultural community; to stabilise markets; and to ensure the availability of supplies to consumers at reasonable prices."

It has succeeded on the first

count. Productivity has shot up. So has the overall level of production, so that we now produce 25 per cent more sugar than we need and 20 per cent more milk, not to mention wine, beef and cereal surpluses, and an olive oil lake that the accession of Greece, Spain and Portugal to the EEC promises to turn into an inland sea.

On all the other counts, it has failed. The gap between high and low-income farmers has widened as a direct result of the CAP. Markets are hopelessly out of balance. Falling consumption indicates that many consumers do not consider food prices "reasonable."

Have we, perhaps, been the victims of a confidence trick, founded on the blanket assumption that the CAP helps the farmer and that the farmer needs help? It does help the farmer, but it may help the middle man a lot more: last year nearly half the 10.3bn ECU spent on price support represented rebates paid to exporters and another 14 per cent went to storage costs. The farmer does need help, that is, the less efficient farmer. He may be a large-scale capital-intensive producer or, more commonly, a small full-time farmer with no chance of alternative production or a job in industry.

Part-timers

But only a third of EEC farm holders are full-time and since these occupy two-thirds of the farmland, many of the small farmers must be part-timers. Most of these spend less than half their time on the farm and at least a third have other jobs. Moreover, the CAP is not the sole source of support—national governments between them spend almost twice as much on the farm sector as comes out of the EEC budget.

The guaranteed price mechanism would begin to look more sensible if prices were

lower, and if the Community were aiming for a streamlined, efficient farm sector with production concentrated in low-cost regions. But changing to an efficient farming industry would exacerbate unemployment and regional poverty, at least in the medium term, and the post-oil crisis recession in industry makes that politically impossible.

The simplest way around the problem would be to cut prices sharply and pay direct subsidies to the smaller farmers until they retired. The Commission has, in fact, suggested this from time to time. But this would eat into the profits of the big farmers, the co-operatives, food processors, traders and the many industries that service the farm sector. Not one government is prepared to risk the political consequences.

The economic distortions resulting from the CAP are not just a British problem. Italy and Germany, which also lose out heavily, can be expected to listen to the British case with some sympathy and interest. But close examination of who pays and who benefits would open a Pandora's box and, at the end of the day, the Heads of Government are unlikely to be talking seriously about reforming the system.

They are more likely to be discussing ways of balancing the books over the next three or four years—adjusting the so-called "financial mechanism," creating a special fund for energy, transport and infrastructure projects in the UK, possibly totting up the interest subsidies for which Britain would be eligible if it joined the European Monetary System.

In return, the British Government may even concede a few percentage points on this year's farm price rises, the root of the problem. After all, three years is a long time to wait for reform.

Margaret van Hattem

Letters to the Editor

Engineers and specialists

From Mr. R. Davis

Sir,—It is unfortunate that your contributors of March 17, in criticising the narrow field of competence of engineers, demonstrate that they clearly suffer from the very same ailment. It is clear, from the article "The missing link in the engineers' armoury" that the authors have, at best, only a superficial knowledge of the normal engineering route from a research result to the finished, marketable product or service.

The store of knowledge required by any science-based professional for a complete command of the subject is so vast that, sadly, the day of the Brains, Telfords and Stephenson is past. Today's generalist, in any profession, must be superficial in his treatment of a problem and must recruit experts as required. The GP doctor resorts to his consultants and the engineer manager to his technical specialists. The procedure is well established and is working well.

There is no doubt, scope for improvement in the way this system works in engineering. In many cases, it would be very helpful if some of the non-engineering specialists, i.e., accountants, marketing experts, etc., had sufficient engineering knowledge to appreciate the problems that their demands create.

By definition, the good engineer—and there are many available—designs and specifies the least complicated and least costly solution to a given problem. A very common difficulty is that the problem is inadequately defined by colleagues or customers who lack sufficient engineering appreciation. Your contributors' call for the lowest production cost and high availability and ease of maintenance often presents a conflict. You can't always have both. The difficulty comes in explaining this to non-engineers. Perhaps our real shortcoming is an inadequate command of the language.

I also think that the Finniston report is an inadequate document but my reasons are not, I regret, those of your contributors.

R. W. Davis,
"Rosebank,"
Townfield Lane,
Mollington, Chester.

In the context of business

From the Director,
The Corporate Policy Group
Oxford

Sir,—Like Brian Houlden and Terry Hill (March 17) I too was disappointed by the tenor of the Finniston report.

Though the predominant focus on education and the engineering profession was inevitable given the Committee's remit the wider context of the engineer as businessman would have been helpful.

Being a first class, competent engineer is one thing. Being able to appreciate business situations and take tough minded decisions is quite another. I would have thought that the Rolls-Royce experience in which all but two of the ten executive directors on the main

board and all but one of the 22 people on the Derby division board were engineers, would have been convincing.

The development of undergraduate courses at Oxford and other Universities in which engineering, economics and management studies are combined is one feasible approach but more thought is certainly needed to set off the ground and easily won. They also provide an effective smokescreen for some of the real interests vested in the CAP.

The Commission likes the CAP because it is the only major policy the Community has and does much of the work of other policies, which have failed to get off the ground. Pumping money into the food industry may be an inefficient way of stimulating regional

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board and all but one of the 22 people on the Derby division board were engineers, would have been convincing.

Broader topics

From Mr. S. Jones

Sir,—The review of the Finniston report (March 17), by Houlden and Hill, suggests that it does not emphasise adequately the need for engineers to have increased training in broader managerial topics. This comment, however, is made in complete isolation from the breadth of training of others who achieve managerial status much more readily at present.

Their example of the engineer who moved successfully into the financial management of his company and on to technical director, perhaps indicates much more the fact that most engineers do indeed already have a relatively good basic understanding of the whole spectrum of managerial subjects including financial (which after all really requires one to be numerate, which is a necessary subset of the specification of an engineer) but also personnel etc., since in essence the engineer has to relate his work to the real world from the start—as opposed to say the physicist who often has the freedom to define his own environment. An interesting question of relativity is how much additional training would be a technical director?

What is perhaps equally relevant to the UK is the need to include engineering topics into the training courses of accountants and others so that when they reach positions of management they will better understand the engineering implications of their decisions.

Stan Jones,
43, Ashley Road,
Farnborough, Hants.

where there is a real understanding and common marketing among those in the company including professional engineers far removed from actual selling then the need for education and experience can be quite easily achieved.

Division and many qualified engineers are over concerned with professionalism.

M. S. A. Ahern
A. S. Associates,
87/89, Quarry Street,
Guildford Surrey.

Productivity management

Professor E. Hundy

Sir,—I find myself agreeing in much of the content of Messrs. Houlden and Hill's article on the Finniston report. The report's criticism of the traditional engineering role in design and development and acceptance of the main philosophy should lead to an improvement in engineering in these areas. I am, however, very concerned at the over early segregation of the "high flying" M.Eng. from the main stream B.Eng. The report, however, does not to me consider clearly the problems of engineers in the vital production function. Senior executives in manufacturing firms do not have to be engineers but in comparison with our successful competitors in Europe and the Far East it is obvious that we would benefit considerably by having more engineers in senior executive positions and on boards (there could also be advantages in non-executive directors having this type of background).

I do not however fully agree with Messrs. Houlden and Hill that all production management topics are best incorporated at the undergraduate stage. The main requirement of an undergraduate course should be to produce an effective engineer with a good enough technical background for him to perform adequately in industry. It is not to produce a generalist with little depth of expertise in any topic. His role for the first few years is likely to be technical in nature: production control, production engineering, quality control etc. if he is placed in the manufacturing function. In my experience graduates do not make effective first line managers straight out of university and should not be used immediately in such roles. Some management topics such as accounting, quality control, industrial engineering etc. can, given time, be successfully included in an undergraduate course, but most aspects of management can only be effectively understood after some experience in industry and are not suitable for teaching at the undergraduate level. Such topics are, I believe, best dealt with in postgraduate courses and in this connection I would cite the successful Engineering Industry Training Board fellowship in manufacturing management scheme which has shown that engineers in their middle twenties can be converted into very successful manufacturing managers by the right combination of teaching and experience.

Finniston is right in advocating continuing formation throughout an engineer's career and I believe that management

topics are better dealt with in this way than trying to do it all at the undergraduate stage.

Professor B. B. Hundy,
School of Production Studies,
Cranfield Institute of Technology,
Cranfield Bedford.

Selling APTs abroad

From the Vice-Chairman,
British Railways Board

Sir,—In view of your Science Correspondent's report (March 18) on the results of the enquiry by an Advisory Council for Applied Science & Development working party, I would like to comment on the export potential of the advanced passenger train (APT).

Apart from the train profile which has been designed to operate within Britain's very restrictive loading gauge—the smallest of any standard gauge railway—the advanced passenger train is perfectly suitable for export.

Although its sleek, aerodynamic shape is of major importance in reducing drag, especially when running at high speed, the key to the APT's excellent overall performance lies in its revolutionary new suspension system which, as well as giving smooth riding even on poor quality track, enables the train to take curves 20-40 per cent faster than conventional trains. Thus considerably reduced journey times can be achieved without costly alterations to the track and signalling or the need to build new high speed routes—the very expensive solution to the reduction in journey time being adopted elsewhere in the world. Together with a controlled roach tilting system to provide passenger comfort when the train is cornering at high speed, the APT's suspension and bogie system and its other technical innovations that offer the most exciting prospects for export.

But there is no problem in incorporating all or any of the technical features of the APT in trains to run on standard gauge railways anywhere in the world.

Having said that, however, I believe we would be deceiving ourselves if we thought that because we in Britain have the most advanced train suspension system in the world, we could sell APTs throughout the world. Nevertheless, wherever sales potential can be identified, British Rail Engineering is prepared to be as aggressive as competitive as any other company in the production business. But it is a fact of life that most countries in which high speed rail transport is being planned have their own manufacturing resources and they are hardly likely to be interested in buying complete trains while their own factories are under-used.

But I do firmly believe that many of them would want to build their own APTs incorporating BR's suspension and tilt systems. So I rate the prospects of selling our know-how and licensing agreements for technology rather more highly than exporting complete trains as built for BR's limited route gauge. We have plenty of evidence to support this.

In conclusion, may I say that I welcome the working party's

findings. British Rail already has strong links in research and development with private industry in traction, rolling stock, signalling and track, from which both are benefiting. This kind of joint endeavour between the public and private sectors of Britain's railways can only be to Britain's advantage, especially in the promotion of valuable exports.

I. M. Campbell,
British Railways Board
PO Box 100,
Euston Square, NW1

Marketing push needed

From the Managing Director,
D. P. Sanders (Industrial)

Sir,—Once again British technology has produced a saleable engineering product in the form of the advanced passenger train, which is going to service this summer, and even before this is actually in operation we are informed that Britain has little or no chance of exporting this latest development which has been widely accepted as a magnificent piece of engineering. This attitude immediately depresses marketing initiative.

The report (March 18) issued by the Advisory Council for Applied Research and Development (ACARD) suggests that the technical competitiveness of British products in world markets "would be greater if state owned companies relied more on their suppliers and other research contractors, and less on "in house" research. It goes on to observe that half of the research and development in Britain is carried out in the public sector and urges the Government to encourage public sector purchasers to find ways jointly of planning and controlling research and development programmes. This goes some way to improve the situation, but could it not be further extended to research in adapting the technology to fit wider international needs?

British Rail and the Ministry of Transport have spent £10m on research and development for this advanced train, and a further £25m for the production of three prototype units; and this is now to be followed by a further contribution from the EEC to cover the manufacture of more rolling stock.

The technical specification of the APT, is no doubt considerably ahead of all world competition. One of the presuppositions being that cause much less wear and tear on the track, which has always been a problem with high speed trains, thus it is a most significant factor.

Without wishing to minimise the problems, or oversimplify the matter, surely it would be very refreshing to bear of an enthusiastic marketing team ready to go anywhere in the world to extol the virtues of this technology. Such a team could comprise the most suitable people in both the private and public sectors of the relevant industries.

Is it not about time that British industry has a psychological boost instead of the negative and apathetic trend that exists at the present time.

Denis P. Sanders,
Triumph House,
189, Regent Street, W1.

Today's Events

(to March 25).
Jewellery and Silver Exhibition, Goldsmiths' Hall, London (to March 27).
Overseas: Lord Soames, British Governor of Rhodesia meets President Samora Machel in Mozambique.
European Parliament special session opens on budget and agriculture prices, Strasbourg (to March 26).
Mr. Francis Pym, Defence Secretary, visits Chloa (to March 29).
Mr. Wilfrid Martens, Belgian Prime Minister, meets Mr. Adolfo Suarez, Spanish Prime Minister, in Madrid.

PARLIAMENTARY BUSINESS
House of Commons: Transport Bill, remaining stages. Miscellaneous Pension Scheme and Redundant Milworkers' Contribution (Govt. (Parliamentary Scheme) Orders, Debate on EE' documents on convergence and budgetary questions.
House of Lords: Education Bill, report, Consular Fees Bill, second reading.
OFFICIAL STATISTICS
National income and expenditure in the fourth quarter and year 1979. Retail sales (February—provisional).
COMPANY MEETINGS
See Financial Diary on Page 6.



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National Westminster sees slower rate of growth for domestic side

THE current year will not be an easy one for the domestic operations of NATIONAL WESTMINSTER BANK, Mr. Robin Leigh-Pemberton, chairman, tells members in his annual review.

Although there is considerable uncertainty about the future demand for lending and the level of interest rates, the group expects to see a slower rate of growth in advances and current account balances than in the last two years.

Moreover, when interest rates eventually start to fall, the group's earnings will be adversely affected. He says, however, that there is a strong underlying demand for the Bank's services and there is an excellent business on which to build. Resources will be directed to seek out suitable new opportunities, and strengthen and widen relationships with existing customers.

As reported on February 27,

BOARD MEETINGS

The following companies have notified dates of Board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are expected to be paid or not. Dividends shown below are based mainly on last year's results.

TODAY
Internac. C. H. Beazer, British Car Auction, Chambers and Forster, A. & J. Buckley, F. J. P. Zochens, Scottish Cities Investment Trust.
Finals: W. Canning, William Collins, Hovis, Lescage, G. F. Lovell and J. Cuth, Queens, Mount House.

taxable profits for 1979 rose by 44 per cent from £305.7m to £441.5m. After tax earnings per £1 share were well ahead at 14.5p (82.6p) and the dividend is stepped up to 17.5p (112.5p).

Largely as a result of record interest rates during the year, the domestic banking contribution expanded by 67 per cent and accounted for 68 per cent of total group performance.

The current year will be one of consolidation and the group expects to reap the benefits of new branch openings towards the end of 1980—there were a total of 73 at year-end against 52 at 1979.

Budget accounts have been introduced for customers and the directors expect a strong demand for the group's range of leisurewear, camping equipment and motorcycle accessories.

As reported on March 7, despite a £37,000 downturn in the second half, taxable profits for the year ended October 31, 1979, increased from £1m to £10.5m. The dividend is raised to 2.15p (15.44p) with a final of 1.31p (10.13p).

Mr. Greenfield says that branches at Hammersmith, Kilburn and Wolverhampton have been transferred to larger and more modern premises, and

an adverse effect on profitability in the current year, the chairman says that underlying business expansion remains strong, and the outlook for the sector is encouraging.

Rapidly increasing technological developments are likely to have a continuing effect on the group's business operation, and the development of services to customers.

The balance sheet shows customers' and other accounts of £19.74bn (£15.15bn)—current, deposit and other accounts totalled £28.44bn (£20.35bn).

Total emoluments of the directors came in £967,090 against £770,000 previously; the chairman's rose from £43,345 to £51,822, and the highest paid director received £96,165 (£51,321).

Occupation of the National Westminster Tower building was not possible in 1979, as contractors ran into difficulties.

Work on fitting it is now continuing and it is hoped that staff will move in during the year.

Annual meeting will be held at 100, Old Broad Street, EC, on April 22, at noon.

Jamesons Chocolates static at £516,000

ALMOST UNCHANGED pre-tax profits of £516,522 compared with £516,302 are reported by Jamesons Chocolates for 1979, on turnover of £11.7m, against £8.7m against £6.9m.

A final dividend of 3p brings the total to 4p (3.65p). Net profit of £330,140 (£285,256) was after a tax charge of £188,382 (£261,046). Earnings per 10p share came to 12.7p compared with 9.8p last time.

Profits in the first six months had improved from £351,510 to £478,270 but the directors said that while medium term results were expected to be satisfactory, economic conditions were hampering the group's order book, which could result in some reduction in progress in 1980.

Stated earnings per share at the year-end were maintained at 38.8p (35.9p). The final dividend is held at 2.56p making a total of 37.34p compared with 37.45p in 1978.

Turnover amounted to £7.25m against £7.02m.

Another good year at Costain Australia

Earnings at Costain Australia, the construction, mining and property group, advanced 7.5 per cent from £83.2m to £88.4m in 1979 and the company has raised the dividend from 8 cents a share to 9 cents.

It was the eleventh successive increase in profit for Costain, which is 75 per cent owned by Richard Costain of the UK.

The directors say that all divisions except the Victorian housing and lands division operated satisfactorily. The industrial relations scene has improved in Victoria and it is hoped that this will promote an upturn in the volume of work available.

Earnings per share are 19 cents compared with 18.8 cents in 1978.

FF Share Information

The following securities have been added to the Share Index of the Financial Times:
Itoh (C) (Section: World Markets—Japan).
Silkolene Lubricants (Oil and Gas).
Viners (Industrials).

BIDS AND DEALS

Hill & Smith expands its drop-forging side

For a consideration of £380,000 cash, Hill & Smith has acquired British and Midland Steel's drop forgings of Oldbury and Stourbridge in the West Midlands.

Net tangible assets of British and Midland as at July 31, 1979, amounted to some £1.5m and its profit before tax for that year was some £229,000. After taking into account transfers of £860,000 made by British and Midland to its parent company after July 31, net tangible assets now total £750,000.

Hill and Smith considers that the acquisition (from Central Manufacturing and Trading Group) will lead to expansion and improvement in profitability of its drop forging division.

SHARE STAKES
Yeoman Investment Trust—Mr. D. A. Reid, director, has ceased to have an interest as trustee to a non-beneficial holding of 30,000 shares.

Simc—Darby Berhad—Mr. Wee Cho Yaw, director, has acquired a beneficial interest in 10,000 shares.

Property Security Investment.

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange

LEIGH INTERESTS LIMITED
Issue of £2,527,608 10 per cent Convertible Unsecured Loan Stock 1984/85 at par

The Council of The Stock Exchange has admitted the above Stock to the Official List. Particulars of the Stock are available in the statistical service of Extel Statistical Services Limited, and copies of such particulars may be obtained during normal business hours on any weekday (Saturdays and public holidays excepted) up to and including 11th April, 1980 from:

KLEINWORT, BENSON LIMITED.
20 Fenchurch Street, London EC3P 3DB
and from SHEPPARDS and CHASE.
Clements House, Gresham Street, London EC2V 7AV

MINING NEWS

CRA builds up stake in Hail Creek coal

BY STEPHEN THOMPSON

IOI PETROLEUM, a wholly owned unit of Australia's Conzinc Riedel group, is to increase its holding in the Hail Creek coal deposit to 25 per cent from 15 per cent following a deal with AAR, a subsidiary of CSR.

IOI will purchase 10 per cent of the coal deposit from AAR in exchange for a package including AAR's £2.05m in cash and various energy and mineral interests. The deal is subject to all necessary Government approvals.

In addition CSR is to purchase from IOI 3.27m AAR shares at a price of AS\$2.5 a share, which will bring CSR's holding in AAR to 97.5 per cent. The share deal is contingent upon the completion of the exchange of assets between AAR and IOI.

Under the terms of the Hail Creek agreement, AAR will acquire IOI's interest in the Theodore, Taroom and Yarrabee coal prospects, the Honeycomb uranium prospect and a number of petroleum and mineral exploration areas.

IOI will retain its 15 per cent interest in the Roma gas leases and that part of Authority to Prospect 118P which is south of latitude 26 degrees 57 minutes. It will also keep its 15 per cent interest in Associated Pipelines, which owns and operates the Roma to Brisbane gas pipeline and interests in the Westmorland uranium prospect.

Following the deal with IOI, AAR's holding in Hail Creek will be reduced to 44 per cent.

Explorations holds 25 per cent Maribent Coal 4 per cent and Sunshio Coal Development 2 per cent.

The statement added that Bond Corporation does not intend to increase its shareholding at this time but regards it as a long-term investment.

The Bond purchase is the latest in a number of share deals over the past year which have proved extremely profitable for the group.

Most recently Bond sold its 1.36m shareholding in Hampton Areas to National Carbonising at a profit of £1.5m. Shares of Pacific Copper Limited moved up 11 to 205p ahead of the Bond share acquisition.

AS140m (£89.3m) in the first-half of this year, 75 per cent more than the 1979 first-half, Australian Information Service reported. Government spending on exploration has been static for the past two years at about \$520m a year.

New Central Wilwatersand Areas, an investment company in the Anglo American Corporation of South Africa group, had net profits in the six months to February of R129,011 (£72,650) compared with R91,605 in the same period of 1978-79. The interim dividend is 10 cents (5.6p), against last year's interim of 7.5 cents and a total distribution for the year of 31 cents.

South African gold production in February was steady at 1.543m ozs, against 1.548m ozs in January this year. In the first two months of 1980, output was 3.651m ozs, slightly down from the 3.676m ozs produced in the same period of 1979.

ROUND-UP

The hunt for minerals in Australia is being pursued with increasing vigour. Exploration spending is expected to reach

scale of terminal bonuses for policies which become death or maturity claims from April 1, 1980. The scale for the ordinary section now varies from £14 per cent after 10 years, and 50.5 per cent after 20 years to a maximum of 107 per cent for contracts in force 50 or more years.

Another home service insurance company, London and Manchester Assurance, is lifting its reversionary bonus rate for its ordinary branch by 10p to £4.90 per cent of the sum assured. But the rate for industrial branch policies is maintained at £3.60 per cent of the sum assured.

Higher rates of reversionary bonuses for 1979 have been declared by the Gresham Life Assurance Society, a member of the AMEV Group of the Netherlands. On new series assurances and deferred annuities, the rates are lifted 15p to £3.65 per cent and £3.95 per cent respectively compound. On the old series assurances the rate, based on the basic benefit only, varies from £3.15 per cent to £10.50 per cent compared with £3 to £10 in 1978.

On the executive pension plan the rate is lifted by 50p to £6.50 per cent compound for both policies in force and single premium contracts. This rate will apply to the recently issued 10p to £4.90 per cent of the sum assured. On paid-up policies, the rate is improved by 25p to £3.25 per cent.

Tokyo Pacific Holdings N.V.
Tokyo Pacific Holdings (Seaboard) N.V.

The Annual Report as of 31st December 1979 has been published and may be obtained from:

Pearson, Harding & Pearson N.V.
Herengracht 214, Amsterdam
National Westminster Bank Limited
Stock Office Services
5th Floor, Drapers Gardens
12 Throgmorton Avenue,
London EC2P 2ES

N. M. Rothschild & Sons Limited
New Court, St. Swithun's Lane,
London EC4A

Bank of Paris et des Pays-Bas
3 rue d'Antin, Paris 2
Banque d'Emile Jacquelin 162,
Bruxelles
Banque de Paris et des Pays-Bas
pour le Grand-Duché de Luxembourg
10a Boulevard Royal, Luxembourg
International Pacific Corporation
Limited
Royal Exchange Building
60 Pitt Street, Sydney N.S.W. 2000

Merrill Lynch International & Co.
all European offices

M. J. H. Nightingale & Co. Limited
27/28 Lovat Lane, London EC3R 9EB
Last Change Gross Yield
price on week 01v (p) % P/E

FINANCE FOR INDUSTRY TERM DEPOSITS
Deposits of £1,000-£50,000 accepted for fixed terms of 3-10 years. Interest: paid gross, half-yearly. Rate for deposits received not later than 28.3.80.

Deposits to and further information from The Chief Cashier, Finance for Industry Limited, 91, Waterloo Road, London SE1 8XP (01-828 7822, Ext. 587). Cheques payable to "Bank of England, a/c FFI". FFI is the holding company for ICPC and FCI.



"1979 was a record year for Nationwide and assets now exceed £4,000 million"

Sir Herbert Ashworth, Chairman of Nationwide Building Society, addressed the Annual General Meeting of members of the Society in London on Friday 21st March.

The following are points from Sir Herbert's speech:

● During 1979 total assets increased by a record £632 million to £3,935 million (+19.1%). At the year end reserves had risen to £127 million. Since then the Society's assets have grown to over £4,000 million.

● Record mortgage advances in 1979 of £866 million.

● Record investment receipts in 1979 of £1,834 million.

● Nearly 2½ million people now keep their savings safe with Nationwide.

About half the 67,000 loans made in the year were to first time buyers and about a quarter to people buying property over 50 years old.

Nationwide Building Society

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LEIGH INTERESTS LIMITED

"In 1979 the Group continued to make good progress in its development as a leading world-wide banking organisation."

Robert Leigh-Pemberton, Chairman.

"The strengthening of our position as a leading international bank has continued to be at the heart of our strategy and in this context we welcome the management and staff of the National Bank of North America to the Group. However, the greater part of our earnings is still derived from the Group's UK operations. Interest rates were a dominant factor in 1979 but income from other sources continues to increase. This is a key objective, for there is every sign that costs will continue to rise and we must remain profitable at interest rate levels considerably lower than those which obtain today."

International In the ten years since we defined the strategy to develop National Westminster as a diversified international banking organisation, not only has the contribution from international activities increased significantly but total international assets have grown from £1 billion to over £12 billion. There was an 18% increase in earnings from international business in 1979; this sector produced over £100 million towards Group profits – a significant milestone – despite high levels of liquidity in the international markets which created increased competition. The substantially increased volume of advances and an active foreign exchange market were both factors in the improved performance.

Immediate steps have been taken to ensure the integration of National Bank of North America into our Group strategy. A significant early development has been the acquisition of a further 16 branches to complement the existing network of 141 branches.

United Kingdom There was a significant increase in volume during the year, both in our banking activities and in our other operations in the UK. We have improved our range of services, with special attention to the needs of small businesses, by introducing schemes in conjunction with the Council for Small Industries in Rural Areas (CoSIRA) and the Welsh Development Agency (WDA). We have also introduced a scheme to provide venture capital through a new subsidiary, Growth Options Limited.

Within the limitations imposed by Government restrictions on the growth of the money supply, we have given priority to customers requiring finance to increase exports and to reduce imports.

The main UK subsidiaries all expanded their operations. Lombard North Central increased its total new business by 40% over 1978; Isle of Man and Ulster Banks achieved good profit growth; County Bank significantly expanded all its services, particularly in the international field.

Social Responsibility Our social contribution as a Group rests primarily on the effective performance of our role as a major financial institution. As instances, we have sustained many businesses through a difficult year, and have financed a significant part of the North Sea oil development.

We sponsored a major new campaign entitled 'Action Against Crime', launched in association with Age Concern, which is intended to help elderly people avoid the dangers of violence and fraud, and to assist those who unfortunately become victims.

Through our project known as 'National Westminster Enterprises', we made over 100 experienced staff available for extended periods to a wide variety of charities and other organisations, to assist them mainly in their administration; the direct cost to the Bank was in excess of £1 million. The number of staff on secondment will increase substantially in 1980 in response to the challenge to the private sector represented by public expenditure cuts. We shall also increase substantially our expenditure on sponsorship and support of community projects.

Salient Points from the Chairman's Statement to Shareholders

Pre-tax profits expressed on an historic cost basis show an increase of 44% over 1978 at £441.5 million. Adjusted on a current cost accounting basis this reduces to £285 million.

Development necessitates a sound capital base and, whilst retained profits form an important element in maintaining the Group's capital structure, steps have again been taken during the year to supplement capital resources through additional loan issues to keep them in line with the requirements of our expanding operations.

Removal of dividend constraints has enabled us to declare an increase in distribution which goes some way to restoring the loss in purchasing power which our shareholders have had to bear since restrictions were introduced in 1971.

A slower growth in advances and current account balances is expected in 1980 because of the current tight monetary policy.

There is a strong demand for our services and we have an excellent basis on which to build. Our resources will be directed to seek out new opportunities and to strengthen and widen our relationships with existing customers.

Our Business Development Loan Scheme now extends to terms of up to ten years and amounts up to £100,000. We now operate a fixed rate lending scheme for larger amounts and for cases where more flexible repayment arrangements are necessary.

Figures taken from the Group's Accounts 1979

Ordinary share capital	£234 million
Reserves	£1,306 million
Current, deposit and other accounts	£26,542 million
Advances	£18,115 million
Group profit after allocation to staff profit-sharing	£441 million
Tax	£112 million
Retained profit	£289 million

Copies of the Report and Accounts, which include the Chairman's Statement, may be obtained from the Secretary's Office, National Westminster Bank Limited, 41 Lothbury, London EC2P 2BP.

Working with Export Credits Guarantee Department the Bank has financed, and given bonds in connection with, a substantial number of large export contracts.

Abolition of exchange controls has presented many new opportunities and the Group has the necessary skills to advise both companies and individuals on these points.

The second decade of National Westminster Group, which we are now entering, will bring significant technological advances. We shall take advantage of developments to ensure the most economical use of our computer centres and to automate many activities in our operations.

The first phase of an on-line computer operation for the NBNA branch network will be completed in 1980 using National Westminster's experience and expertise.

We have continued to obtain lead management roles in syndicated currency loans. County Bank has enhanced its reputation by participation in currency lending and in Eurobond management.

Further examples of our social responsibility programmes are Project Respond, a community award scheme for secondary schools, and Matching Support, under which members of staff can obtain funds for charities and community organisations in which they are actively and voluntarily involved.

National Westminster Bank Group

One of the world's leading banks

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Hilton International London

Companies and Markets

INTERNATIONAL CAPITAL MARKETS

BY OUR EUROMARKETS STAFF

INTERNATIONAL BONDS

Sweden aims at turning on the tap

THE LONG-AWAITED Carter anti-inflation package has convinced most investors that the U.S. currency is worth buying but it has not yet brought any cash into dollar denominated bonds.

Investor appetite for fixed interest dollar denominated bonds will be put to the test this week when the first tranche of the \$500m 34-year "tap" for Sweden goes on offer.

The receipt of the first tranche, which is managed by S. G. Warburg and Salomon Brothers, will be closely monitored by Eurobond houses in London and Continental financial centres.

It marks the reopening of the fixed-rate dollar Eurobond market which has been effectively closed since last summer.

Initially a tranche of \$125m only will be offered, the remainder will follow before the year is out, at the borrowers' option.

Contrary to usual Eurobond market practice, no coupon or price for the bond will be indicated; instead the issue will be offered on the basis of a guaranteed yield, which is expected to be around 7 per cent, marking a new high for

an issue of this quality. The market is confident of a satisfactory investor response to the new-angled "perpetual FRN" of \$200m which Citicorp is launching through its London investment bank. This is basically a 24-year FRN with interest paid three-monthly at three-month Libor, but the investor has the option of keeping his cash with Citicorp as long as he wants, receiving interest at the three-month "bid" rate, and seeing the knowledge that he can get repayment in full at six-month intervals. Citicorp has a repayment option after six years.

Viewed as an instrument of bank financing, the issue appears to be an imaginative answer to troubled circumstances. Viewed as a bond, it is a sign of the times—not only is the interest rate floating but the maturity is now floating as well.

Straight dollar bond prices moved up about 1/4 of a point on the week while Deutsche Mark foreign bond prices took a nasty knock, posting falls of 2 1/2 points. It would appear, however, that investors selling D-Mark bonds are not switching

into dollar denominated bonds but are putting their money into D-Mark deposits. They are doing this, according to dealers in Frankfurt, on the assumption that German interest rates have still some way to go before reaching their peak while D-Mark bond prices can be expected to fall further.

In sharp contrast, prices on the Swiss franc foreign bond market managed a modest gain of about 1/4 of a point. Bankers in Zurich report that the market is consolidating, albeit at lower levels.

In the dollar sector, investors buying bonds concentrated their attention to the longer end of the market. Some longer maturity issues posted gains of nearly three points on the week. This happened to the 10 per cent Michelin bond of 1994 which closed on Friday at 75 1/4.

Dealers said such rises were more a reflection of the scarcity of paper available and the short positions held by most dealers, than an indication that buying interest was strong.

Buyers last week appeared to be mostly retail in nature and based in continental Europe. The market will be looking this week for some indication that the large institutional investors are now prepared to commit funds to the Sweden issue.

Selling pressure was strong on D-Mark bonds throughout the week. Older issues suffered the worst losses, in some cases as much as four points. The 7 1/2 Brazil bond to 1984 thus closed on Friday at 84 1/4, having started on Monday at 91 1/4. More recent issues suffered smaller losses: for instance the \$4 bond for Gasunie to 1987 shed 1 1/4 points on the week to close at 83 1/4.

This further bout of weakness means that yields of over 10 per cent are now available on a wide variety of D-Mark bonds. Some new issues can be placed, as was demonstrated with the DM 200m public issue for Sweden, which yields 9.75 per cent.

The lead manager, Deutsche Bank, however, took the precaution of numbering the bonds so as to control distribution of the issue.

The underwriting agreement allows the lead manager to recover from any underwriters who dump bonds in the open market the full amount of the selling group concession. This

agreement is valid for three months from the date of issue of the bonds.

In Switzerland, despite last week's consolidation new issue managers are still cautious. As of Friday the major banks were sticking to their policy of withholding new issues. It thus looks as if the public market may not reopen till April 9, when Banque Gutzwiller Kurz Buegler is to float a loan for the Dutch company Böhmann-Tetterode.

There are signs, however, of activity in the private placement market where Swiss Votekbank is managing a SWFR 50m issue for the Danish Export Finance Fund. This issue will bear a coupon of 7 1/2 per cent and be issued at par, while the maturity contains an unusual feature in that it is graduated between three and five years.

Austria is also floating a two-tranche private placement totalling SWFR 50m through the management of Kreditbank (Suisse) SA. Maturities are three and five years with coupons of 8 1/2 and 7 per cent.

Eurocredits Page 26

CURRENT INTERNATIONAL BOND ISSUES

Borrowers	Amount m.	Maturity	Av. life years	Coupon %	Price	Lead manager	Offer yield %
U.S. DOLLARS							
HENEL	200	1987	7	5 1/2	100	Societe Generale	5.3190
Citicorp Cr. Fin. (g'teed Citicorp)	200	1982	2 1/2	—	100	Citicorp	—
Sweden	125	1983	3 1/2	—	—	S. G. Warburg, Salomon Bros.	—
D-MARKS							
Sweden	200	1987	7	9 1/2	100	Deutsche Bank	9.750
SWISS FRANCES							
Danish Exp. Fin. Fund	50	1985	4	7 1/2	100	Swiss Votekbank	7.250
Austria	25	1983	3	6 1/2	100	Kreditbank (Suisse)	6.750
Austria	25	1985	5	7	100	Kreditbank (Suisse)	7.0
STERLING							
Swedish Export Credit Corporation	20	1985	5	15 1/2	100	Hambros	15.250

* Not yet priced. * Final terms. ** Placement. † Floating rate note. ‡ Minimum. § Convertible. ¶ Registered with U.S. Securities and Exchange Commission. † Purchase Fund. Note: Yields are calculated on AIBD basis.

U.S. BONDS

BY STEWART FLEMING

Cold comfort from the Carter package

AFTER RALLYING initially in the wake of the Carter Administration's new anti-inflation package, prices on the New York bond market fell swiftly on Thursday and Friday of last week.

The bulk of the trading activity was among Wall Street dealers rather than between long-term investors, and as a result the markets were thin and potentially volatile. Just how thin became apparent at the end of the week, when prices slumped again to close at roughly the same levels at which they opened on Monday.

On balance, therefore, the market seems to be giving at best a lukewarm response to the Administration's efforts. For the moment, long-term inflationary expectations do not seem to have been dramatically altered. For the shorter term, investors appear to be focusing on the continued uncertainties about how Congress will handle the proposed budget cuts, so doubts about how realistic the Administration's budget forecasts are, in a period of unpredictable inflation, and as assessing how the Federal Reserve Board will implement its credit restraint programme to the weeks ahead.

Further signs that the market seems to be a particularly difficult one for the central bank appeared last on Friday with news of an unexpected strong surge in the money supply in

the latest banking week ended March 12. The Fed reported that M-1, the broader of the two principal measures of the money supply which includes currency in circulation and cheque accounts at banks and savings institutions, rose by \$1.9bn during the week to \$393.3bn. M-1, which excludes chequing

to fluctuate more widely. The latest minutes of the Fed's Open Market Committee disclose that the central bank may let Federal funds trade at as high as 18 per cent, a decision reached on March 7. The previous limit had been 18 1/2 per cent.

Even before the release of the money supply data, however, analysts were predicting and the markets signalling that the easy conditions in the money markets, which led to a marked decline in short-term interest rates through the early part of last week, would soon be coming to an end. (Three-month Treasury bill rates fell at one point to around 14 per cent before rising to over 15 per cent on Friday).

Several factors account for this judgment, but a key one is the event which sparked the turnaround in the markets on Thursday was the news that the Treasury is to make heavy demands for funds in the next two weeks. Including last week's financing, the Treasury is raising, or planning to raise, around \$19.5bn, much of it by issuing short-term securities.

The coming week will also see the release of the latest consumer price index for February, which is generally expected to confirm the acceleration in the pace of inflation so far this year, evident in data already published.

U.S. INTEREST RATES	Week to Mar. 21	Week to Mar. 14
3-month Treas. bill	15.20	15.20
6-month " "	15.20	15.20
1-year " "	15.20	15.20
2-year " "	15.20	15.20
3-year " "	15.20	15.20
5-year " "	15.20	15.20
10-year " "	15.20	15.20
30-year " "	15.20	15.20

Source: Salomon Brothers.

THE IMF

BY PETER MONTAGNON

Oiling the wheels of recycling

THE International Monetary Fund is moving slowly towards the realisation that it will have to play an increasing role in recycling surplus oil exporters' funds to countries with balance of payments deficits.

With the OPEC surplus now expected by the IMF itself to reach about \$120bn this year, international bankers have been at pains to point out that they can no longer bear the brunt of this recycling process. Many have pressed for a more active role from institutions such as the IMF and World Bank.

However, in executive board discussions on recycling last week, IMF directors generally took the view that there is no need at present for a new financing facility. Also, industrial countries have been adamant that the IMF should not abandon its policy of conditional lending.

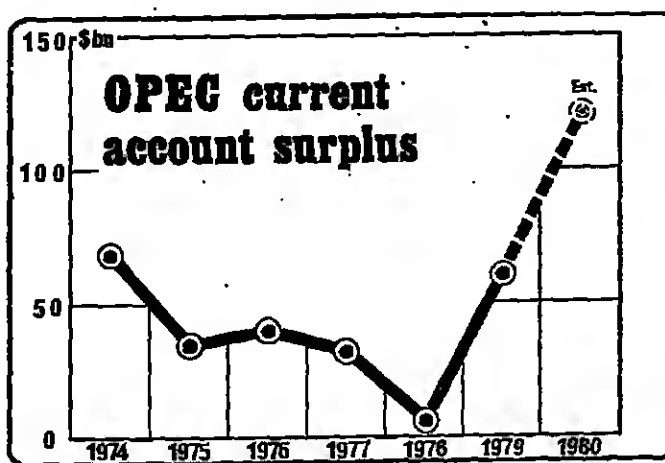
The IMF, which was not a net lender last year, is currently very liquid. Sources in Washington say that it has something like \$20bn at its disposal in the form of cash in hand, undrawn

amounts of the supplementary financing facility and funds which can be raised quickly through implementation of the General Arrangements to Borrow (GAB) from its richer members.

In these circumstances it does not need any new resources to step up its lending, barring any major world banking crisis which the IMF staff do not at present foresee.

But a subtle change has emerged in that members of the board are beginning to look beyond this to the question of what the IMF should be ready to do if it turned out that banks could not after all cope with the recycling process.

Here there are broadly three proposals which have been put forward informally, though must be stressed that the Fund is a long way from implementing any of them at this stage. One is that the IMF should take upon itself the task of borrowing funds on commercial markets for on-lending to its members at interest rates which could be subsidised



either through further sales of gold or through the Trust Fund for Developing Countries into which the profits from current gold sales are channelled.

Another idea, which seems to be more favoured by the IMF staff, is that it might be desirable to stitch together a network of bilateral agree-

ments with surplus member governments to make credit commitments available to the fund in the case of sudden urgent need.

This approach would tend to complement the activities of the commercial banks rather than substituting for them as in the first proposal. But it would be complicated to

arrange; in particular, the conditions at which the surplus countries would lend could be a matter for protracted discussions.

A third proposal is for a new and substantial increase in quotas which would have the effect of increasing the IMF's ability to lend. In view of the fact that the seventh quota review, which basically doubles existing quotas, is still out complete, this would be seen by many as a rather long-term solution.

The IMF board is expected to continue its deliberations on the recycling issue in the weeks ahead. Even now, however, it appears likely that the question will be an important talking point when its interim committee meets in Hamburg late in April.

FT INTERNATIONAL BOND SERVICE

U.S. DOLLAR	Issued	Bid	Offer	Day	Week	Yield
STRAIGHTS						
Alcoa Australia 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa Canada 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35

YEN STRAIGHTS	Issued	Bid	Offer	Day	Week	Yield
STRAIGHTS						
Alcoa Australia 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa Canada 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35
Alcoa U.S. 10.85	100	81 1/2	82 1/2	0	+1	15.35

BONDTRADE INDEX AND YIELD			
Yield	Medium term		Long term
12.60	Mar. 21	89.65 (1/2)	79.15 12.88
12.09	Mar. 14	89.72 (2/1)	78.99 13.03
11.84	High	90.03 (2/1)	79.19 (2/1)
10.67	Low	88.81 (1/2)	71.54 (25/2)
-7%			
EUROBOND TURNOVER			
(nominal value in \$m)			
Yield	U.S. \$ bonds	Credit	Euroclear
15.42	Last week	741.5	2,177.9
14.93	Previous week ...	552.4	2,068.5
14.43	Other bonds		
14.30	Last week	250.7	356.4
13.78	Previous week ...	226.5	430.0
13.59			
13.49			
10.32			
10.21			
9.74			
9.61			
9.78			
11.57			
11.21			
10.70			
13.90			
13.89			
14.86			
14.86			
14.72			
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NEW YORK

Mar. 21	1979-80		Mar. 81	Price Fls	1979-80		Mar. 82
	High	Low			High	Low	
125	94.5	84.5	ACF Holdings	65.50	623	116	Ajinomoto
9036	194.4	171.0	Alford	59	678	61	Alkermes
16	212	212	AKZO	28.0	404	64	Amgen Glass
62	370.0	366.5	ARN	91	68	43	Amgen
55	79.5	61.5	ARMCO	56.50	50	64	Caniel
5578	608	168	Brodero Cert	189.0	1,180	24	Ottizen
234	130.5	105	Box Kraft	1.00	760	64	Card
234	29.5	26.5	Bushmann-Tet	54.0	524	48	Da Nippon Pte
46	29.5	14.5	Caland Hldgs	36.00	293	23	Dalva House
46	895	801	Elevator	305.50	419	64	Deere
46	20	20	Enria	1.58	680	58	Deere
4312	65.5	55.5	Euro Dom Tel	55	1,680	92	Ebara
4312	45.5	30	Epi-Broccades	30.40	420	50	Fujita Bank
936	67.5	60.2	Heineken	51.10	450	25	Fujitsu
216	57.7	57.7	Hogson	18.00	1,210	76	Fujitsu
216	20.0	20.0	Hunter	22.00	1,190	250	Fujitsu Fanno
20	49	22	Int-Mueller	22.80	2,100	1,470	Green Cross
1876	36	36	KLM	2.50	65	46	Harada
1876	22.5	5	Newman	2.50	283	65	Hatchai Ri East
1876	125.5	101.5	Nat Ned Cert	103.20	685	50	Hitachi
1876	51	54.5	Ned Cred Bank	56.3	293	55	Hitachi Koki
1876	190.7	180	Ned Cred Bank	68.5	687	60	Hitachi
1876	97.5	87	Ned Cred Bank	72	290	40	House Food

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16	1.367	1.078 Austro	1.195	1,360	601 Yokogawa Edg.
17	1.500	1,500 Brown Boveri	1.820		
18	1.376	900 Ciba-Geigy	1.080		
19	1.075	700 du Pont (Porta)	0.828		
20	1.000	0.175 Credit Suisse	0.250		
	2.400	1,620 Elektrowatt	2,220		
	600	600 Fischer (Geo.)	2,220		
84	63.5	500 H. H. Roche & Co	35.500		
	8.400	5,328 Hoff-Laure 1/10	5,325		
	6.676	750 Inter-Reford	4,450		
	1.500	1,500 Jellat	1,450		
	1.550	987 Lands & Cyl	1,110		
	3.680	1,140 Hestie	5,185		
	2.680	2,680 Rep-Burtrie	2,610		
	850	850 Rho	825		
	4.990	5,800 Sandoz (S)	7,700		
	672	480 Sandoz IPi Chel	450		
	3,000	3,000 Jellat (IPi Chel)	2,500		
	850	765 Swissair	760		
	8.900	6.46 Swiss Bank	5,425		
	2.900	1,785 Swiss Volksbk	1,603		
	3,600	3,600 Zurich Bank	3,570		
	1.275	750 Winterbo	2,000		
106.1	14,800	11,500 Zurichine	12,850		

Price	Frs.				
1.636					
5,810					
256					
358					
1.275					
106.1					

AUSTRALIA					
1970-80	Mar. 21	Price			
1.618		5.30	0.55 Asperom		
2.60		7.15	3.55 AC & CI		
4.80		4.30	17.00 6.67 Anglo Am. Cp.		
4.40		4.30	17.00 6.67 Anglo Am. Cp.		
1.11		1.15	89.00 13.20 Brit. Rand		
1.46		1.05	8.00 1.70 CMA Invest.		
1.99		1.05	8.00 1.70 CMA Invest.		
1.98		0.30	11.75 6.07 De Secur.		

SINGAPORE					
1972-80	Mar. 21	Price			
High	Low				
4.22	0.25 Boustad				
3.00	2.00 Cold Storage				
6.00	0.85 Fraser & Neave				
1.20	1.28 Haw Par				
1.51	1.51 Hestie & Co.				
1.50	1.50 Malay Banking				
7.90	7.90 Malay Bro.				
5.82	5.82 OBC				
1.00	1.00 P. N. 44				
6.40	2.95 Gime Darby				
10.70	6.50 Straits Trdg				
4.46	5.14 UBS				

SOUTH AFRICA					
1979-80	Mar. 21	Price			
High	Low				
5.30	0.05 Asperom				
7.15	3.55 AC & CI				
17.00	6.67 Anglo Am. Cp.				
17.00	6.67 Anglo Am. Cp.				
89.00	13.20 Brit. Rand				
8.00	1.70 CMA Invest.				
8.00	1.70 CMA Invest.				
11.75	6.07 De Secur.				

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24.60	5.90 Cheong Kong	19.10	AMEI, Israeli P.R. Mills	582
2.75	1.97 Osemo Peng	0.10	AMEI, Israeli P.R. Mills	582
75.9	8.50 Gao Harbou	8.00	Elite	207
11.20	8.50 Gao Harbou	8.00	Elite	207
85.8	8.50 Gao Harbou	8.00	Elite	207
104.00	8.50 Gao Harbou	8.00	Elite	207
6.00	4.00 HK Electric	5.85	Elite	207
75.9	4.00 HK Electric	5.85	Elite	207
88	6.00 HK Land	10.70	Elite	207
68.2	3.00 HK Land	10.70	Elite	207
54.00	3.00 HK Land	10.70	Elite	207
8.00	3.00 HK Land	10.70	Elite	207
9.05	3.00 HK Land	10.70	Elite	207
10.60	3.00 HK Land	10.70	Elite	207
5.20	3.00 HK Land	10.70	Elite	207
1.81	3.00 HK Land	10.70	Elite	207
75.9	3.00 HK Land	10.70	Elite	207
70.6	3.00 HK Land	10.70	Elite	207

Spanish prices, Page 5

NOTES: Prices on this page are quoted on the individual shares, and are not subject to suspension, and Ex dividend, and Ex

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Indices

NEW YORK—DOW JONES

	1979-80						Since Comp'n	
	Mar. '80	Mar. '80	Mar. '80	Mar. '80	Mar. '80	Mar. '80	High	Low
• Industrials	785.15	788.08	806.94	801.02	788.55	811.68	265.84	785.15
					(182,858)	24,818		
					(80,161)	81,650		
H'm & S'nds	84.52	84.10	84.70	84.82	84.20	84.58	100.71	41.22
					(1,000)	1,000		
Utilities	250.15	252.92	258.58	254.87	255.51	261.76	302.80	255.78
					(6,000)	(772)		
Transport...	100.88	101.79	101.78	101.92	100.54	102.91	118.45	100.88
					(152,930)	(24,180)		
TradingVol								

000/67 55.25 62.95 65.00 74.75 79.00 80.00 81.00

*Day's high 794.71 low 779.53

Ind. div. yield %	Mar. 14	Mar. 7	Feb. 29	Year ago (approx)
	6.41	6.00	6.02	5.80

STANDARD AND POORS									
Mar. 21	Mar. 20	Mar. 19	Mar. 17	Mar. 17	1978-80		Since Compl'n		
					High	Low	High	Low	
Industrial	118.94	118.78	118.27	118.05	118.54	117.88	118.94	5.75	
	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	
Composite	102.81	103.12	104.51	104.19	102.28	105.40	116.44	4.90	
	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	(18/2/80)	
	Mar. 19	Mar. 12	Mar. 6		Year ago (approx)				
	6.59	5.37	5.14		5.03				
Ind. div. yield %									
	7.66	7.66	7.96		8.68				
Ind. P/E Ratio									
Long Gov. Bond Yield	11.93		12.29		12.32		9.02		

N.Y.S.E. ALL COMMON									
Rises and Falls									
Mar. 21 Mar. 20 Mar. 18									
Mar. 21	Mar. 20	Mar. 18	1978-80						
High	Low	High	Low	Issues Traded	1,952	1,800	1,954		
58.24	58.00	59.31	59.09	67.77	65.68	Rises	404	429	395
						Falls	096	887	578
						Unchanged	409	330	307
						New Highs	—	0	30
						New Lows	—	147	120

		1979-80					
		Mar. 8	Mar. 20	Mar. 12	Mar. 18	High	Low
Industrial		826.47	868.59	878.47	884.45	828.50 (25/26)	218.15 (2/1)
Combined		859.69	887.35	887.45	901.26	878.50 (23/24)	230.00 (2/1)
TORONTO Composite		1888.10	1966.84	1924.84	1854.7	1882.50	1818.84 (2/1)

NEW YORK ACTIVE STOCKS									
		Change					Change		
Friday	Stocks traded	Closing price	day	Stocks traded	Closing price	day	Change	day	
IBM	1,676,825	92 1/2	+	315,800	50 1/2	-	-	-	
Gen	673,600	34 1/4	+	Philips Electric	301,100	44	-	-	
Sac Resubst.	852,000	16	+	Mid-S. Utl.	300,000	19	+	+	
Metall	361,000	26 1/2	+	Gen. Motors	261,000	40	+	+	
Steel	518,400	28 1/2	-	Amer. Home Pr.	296,120	23	-	-	

	1979-80					
	Mar. 81	Mar. 80	Mar. 79	Mar. 78	High	Low
AUSTRALIA Sydney All Ord. (1988/89)	788.84	785.67	791.45	770.82	847.47 (14/2/80)	645.72 (21/1/79)
Australia All Index (1989/90)	4813.05	4902.01	4764.27	4642.88	5080.95 (14/2/80)	2917.54 (21/1/79)
AUSTRIA redit Aktien (2/1/82)	88.48	88.79	88.70	89.74	90.40 (7/1/80)	85.58 (21/7/78)
BELGIUM Belgian Sx (12/12/82)	85.14	84.15	85.61	82.65	108.47 (9/1/81)	82.05 (18/9/80)
DENMARK openlagen Sx (1/1/79)	75.50	75.50	75.94	75.81	87.48 (25/7)	74.78 (15/6/78)

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WEDEN McCabson & P. (11/150)	874.81	888.98	868.28	867.65	491.34 (41/77)	831.87 (24/5)
WITTERLAND Witterland Bank Co. (8/11204)	864.58	286.1	294.8	288.5	828.18 (2/5)	288.9 (18/10/68)
WORLD World Intl. (11/170)	—	125.8	125.1	125.4	148.3 (16/2/88)	122.9 (11/7/78)

Base values of all indices are 100 except NYSE All Common—50; Standard & Poors—10; and Toronto—1,000; the last issued based on 1975. * Excluding
 & 400 Industrials. & 400 Industrials plus 40 Utilities, 40 Financials and
 & Closed. & Unavailable.

مكتبة من الخجل

AUSTRIA		
1979-80	Mar. 21	Price %
High	Low	
544	335	Creditanstalt
544	351	Glückaufbank
299	258	Perfektum
114	66	Imper
50	25	Steyr Daimler
359	341	Weissner Mng
844	801	Paribas
114.9	69	Pecheniny
324	240	Parmed Ricard
371	258	Parigier
101	135	Parquet-Git
310	140	Polis
480	278	Radiotach
844	413	Redoute
287	173	Rhone-Saules
299	416	Rossi
169	116	St. Gobain
200	120	Suisse Romande
883	807	Suzy
269.1	185.1	Tatmoson-Brandt

BELGIUM/LUXEMBOURG		
1979-80	Mar. 21	Price %

GERMANY	
1979-80	Mar. 21

[illegible]

697	181	Salida Sisa	284	103	Khuph	0	
131	615	Born & Wain	104	698	70	Luthansa	0
199	106	Compania	105	101	126	126	0
243	189	75 D. Sukkerfab	200	175	126	126	0
199	106	Compania	105	101	126	126	0
143	14	East Asiatic	116,95	201	131	Marcedes Hils	0
166,80	12,90	Finanzenbank	125,93	202	131	Marcedes Hils	0
100	100	Forestry	100	203	131	Marcedes Hils	0
270	149,75	Forend & Dampek	149,75	204	131	Marcedes Hils	0
634	106	DICHT Hils	163,5	205	131	Marcedes Hils	0
139,25	189,25	Korb Kaba	189,25	206	131	Marcedes Hils	0
139,25	189,25	Korb Kaba	189,25	207	131	Marcedes Hils	0
139,25	189,25	Korb Kaba	189,25	208	131	Marcedes Hils	0
142,75	76	Papirfabrikker	103,6	209	131	Marcedes Hils	0
142,75	76	Papirfabrikker	103,6	210	131	Marcedes Hils	0
142,75	76	Papirfabrikker	103,6	211	131	Marcedes Hils	0
820,25	948	D. Smith (FL)	948	212	131	Marcedes Hils	0
820,25	948	D. Smith (FL)	948	213	131	Marcedes Hils	0
108	06,25	Beck	93,70	214	131	Marcedes Hils	0
108	06,25	Beck	93,70	215	131	Marcedes Hils	0
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108	06,25	Beck	93,70	371	131	Marcedes Hils	0
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FINANCIAL TIMES SURVEY

Monday March 24 1980

Belgian Banking and Finance

The sharp decline in Belgium's economic fortunes since last summer—almost entirely the result of the impact of oil price increases—has thrown its financial sector into some disarray. The coming months will provide yet another test of the system's resilience under pressure.

Economy takes sudden slide

By Giles Merritt

THE STORM signals that during the last six months have been giving warning of Belgium's worsening economic difficulties have in recent weeks begun to look more like distress signals.

The Belgian franc has of late set the warning bells of the European Monetary System's (EMS) "divergence indicator" ringing almost daily, and even the recent dramatic increase of two points in Belgium's discount rate, taking it to an all-time high of 14 per cent, has failed to stem the capital outflow that threatens a forced devaluation of the currency.

On the face of it the National Bank's decision to push interest rates so high should make Belgium a magnet for capital. Even with inflation rising in February to an annualised rate of 6.45 per cent, the margin of real interest is now one of the highest on offer.

But the Belgian economy's structural problems are serious and warning international confidence in the ability of the coalition government led by

M. Wilfried Martens to solve them without precipitating a fresh political crisis is now compounding the troubles facing the franc.

Yet exactly a year ago Belgium was riding high with a strong surge in the economy that demonstrated the resources and strength of the country's streamlined and export-oriented industries. During the 12 months to mid-1979 industrial production advanced by 10.6 per cent, making the most positive and apparently assured of all the rallies in the Belgian economy since the 1973-74 oil crisis. The mini-boom dictated hurried revisions of last year's growth forecasts, so that the rate of increase in Gross National Product (GNP) demonstrated an encouraging curve from 1.2 per cent in 1977 over 1976, two per cent in 1978 over 1976, and 3.5 per cent for 1979.

In the event GNP increased by nearer three per cent last year over 1978. But the responsiveness of the open Belgian economy to improvements in demand was nevertheless impressive. During what appeared to be the renewed balcon days of the first half of last year, such key Belgian industries as the metallurgical sector registered production increases of around 20 per cent, while even the problematical textiles sector showed a gain of almost 14 per cent in comparison with the corresponding 1978 period.

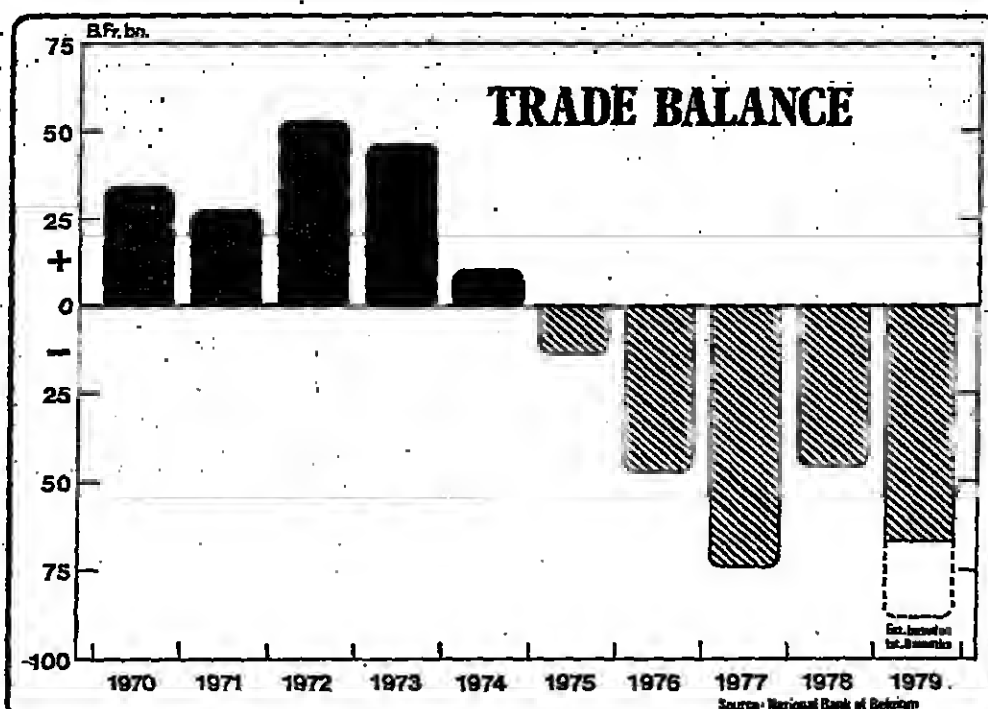
The upshot of these improvements was that the level of Belgian industrial capacity in use rose to almost 78 per cent—still considerably short of the 85 per cent level reached in 1974, but a useful advance on the 77 per cent figure last reached in 1976.

Even at that time, though, economic analysts were stressing that the upturn was cyclical and adding ominously that what went up was liable to come down. Belgium's bugbear, not surprisingly, is rising oil prices, for the 1979 price increases have already cut at least one per cent off likely GNP growth in 1980 and reduced it to 1.5 per cent as against the 2.5 or even three per cent rate once forecast.

Underscore

According to the annual report published recently by the Paris-based Organisation for Economic Co-operation and Development (OECD), this year will see higher inflation, a probable rise in unemployment and a larger trade deficit for Belgium. And as if to underscore the message that soaring energy costs are largely responsible for that unhappy picture, the OECD added when publishing its report in mid-January that the latest round of oil price rises had occurred since the report was drawn up, so that such forecasts as a \$2.6bn current account trade deficit for the Belgium-Luxembourg economic union, virtually unchanged for 1980 from last year's level, were liable to be optimistic.

The key to Belgium's troubles, though, is neither the savage increases in the oil import bill nor accelerating interest rates—even though Belgian bankers grouped in the Association des Banques Belges complained at the end of last month that the raising of the discount rate from 10.5 per cent to 12 per cent, and the fact that Belgium is now apparently locked into a position where short-term interest



rates will remain higher than longer term rates, "means there is no longer any room for manoeuvre" in the economy.

Belgium's fundamental problem is employment. The jobless total remains the second highest in the EEC, after Ireland's, and the country's snowballing State spending occasioned by that has an increasingly disruptive effect on the economy. The political constraints on the coalition Government, in a country that risks being split apart by the rivalry between the francophone Walloon and Dutch-speaking Flemish communities, make it unlikely that the trend can be

swiftly reversed.

Last year, taking the EEC as a whole, the ratio between Government expenditures and Gross Domestic Products (GDP) increased only slightly over 1975 levels. But in Belgium that ratio has gone from 45.9 per cent in 1975 to reach 53.1 per cent for 1978. And in the same five-year period the net deficit of the Belgian public sector rose from 4.4 per cent of GDP to 7.6 per cent.

To fund social services and benefits that are crucial to a country edging toward an unemployment rate of 9 per cent of the active population—

but which are widely regarded as now being too "elastic" in terms of awarding benefits—successive Belgian Governments have soaked up the bulk of capital available on the domestic market. In doing so they deprived Belgium's industry of investment funds. Last year the Government reversed a standing rule of ten years and turned to borrowing abroad.

The results of that change of policy have been mixed. More risk capital has become available to Belgian industry and there are some signs that funds are beginning to be funnelled into programmes for reconver-

ting the run-down traditional industries of Wallonia. On the other hand, recourse to the international markets has done little to reinforce the credibility of the Belgian franc, and the tough deflationary measures needed to keep the currency on level pegging with the Deutsche Mark and the Dutch guilder—for the Netherlands and West Germany absorb well over 40 per cent of Belgium's vital export trade—have pushed interest rates to their record levels. In other words, capital is now more freely available domestically, but is often too expensive for the neediest Belgian borrowers.

Belgium is of course a small highly industrialised country which despite its problems of economic management clings close to the top of the EEC wealth ladder. It should be stressed, for instance, that its employment difficulties stem in some part from its own industrial success. The overall increase in productivity recorded between 1970-79 was 81 per cent, well ahead of the rest of Western Europe.

But the phenomenon has been Belgium's own antidote to uncompetitively high wages, for productivity boosts averaging 6.7 per cent a year have enabled employers to slim their workforces. High productivity, depending upon which way you look at it, is either the silver lining to the cloud of unemployment or it is the only option available to Belgium's industry to combat crisis that could push its goods out of the international marketplace.

Belgian costs have traditionally been high, as befits a country that grew wealthy on a 19th century industrial base and thrived again on the post-World War II industrial rebirth

and foreign investment boom of the 1960s. But inflation is the spectre that continually haunts the Belgian authorities.

Belgium has in recent years won some resounding victories over inflation, but the war goes stubbornly and frustratingly on. The last successful battle was in 1978, when the 5.4 per cent inflation rate being projected by the consumer price index at the beginning of that year was in fact reduced by severe domestic controls to just 3.7 per cent.

Pointers

But by last year the trend had begun to reverse, so that by mid-year oil and commodity price rises had helped push industrial wholesale prices up by 6.9 per cent over June 1978. By last October the key consumer price index was showing a 5.1 per cent rise over the past 12 months, and now the pointers suggest that 1980 will have produced an inflation rate of around 7 per cent.

Outsiders often describe Belgium's inflation rate as being "German-style," and when set against the double figure rates of several other EEC or industrial nations it must seem benign enough. But keeping in perfect step with West Germany and the Netherlands is what counts for Belgium's foreign trade, and now there are fears that in those terms Belgian inflation may be getting out of hand. The OECD pointed to one problem area that has of late been the subject of heated discussion inside Belgium—the country's system of automatically linking wages to the consumer index—and warned that the risk it carries of creating a wages-prices spiral would best be countered by adjusting the indexation mechanism.

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zing in wholesale banking services ranging from commercial and public-sector lending, project finance, and foreign trade finance to portfolio management, security dealing, and international finance—often arranging or participating in syndicated Euroloans and Eurobond issues. For refinancing purposes, the Landesbanken are authorized to issue their own bearer bonds. For more information on Germany's largest banking sector, just write to:


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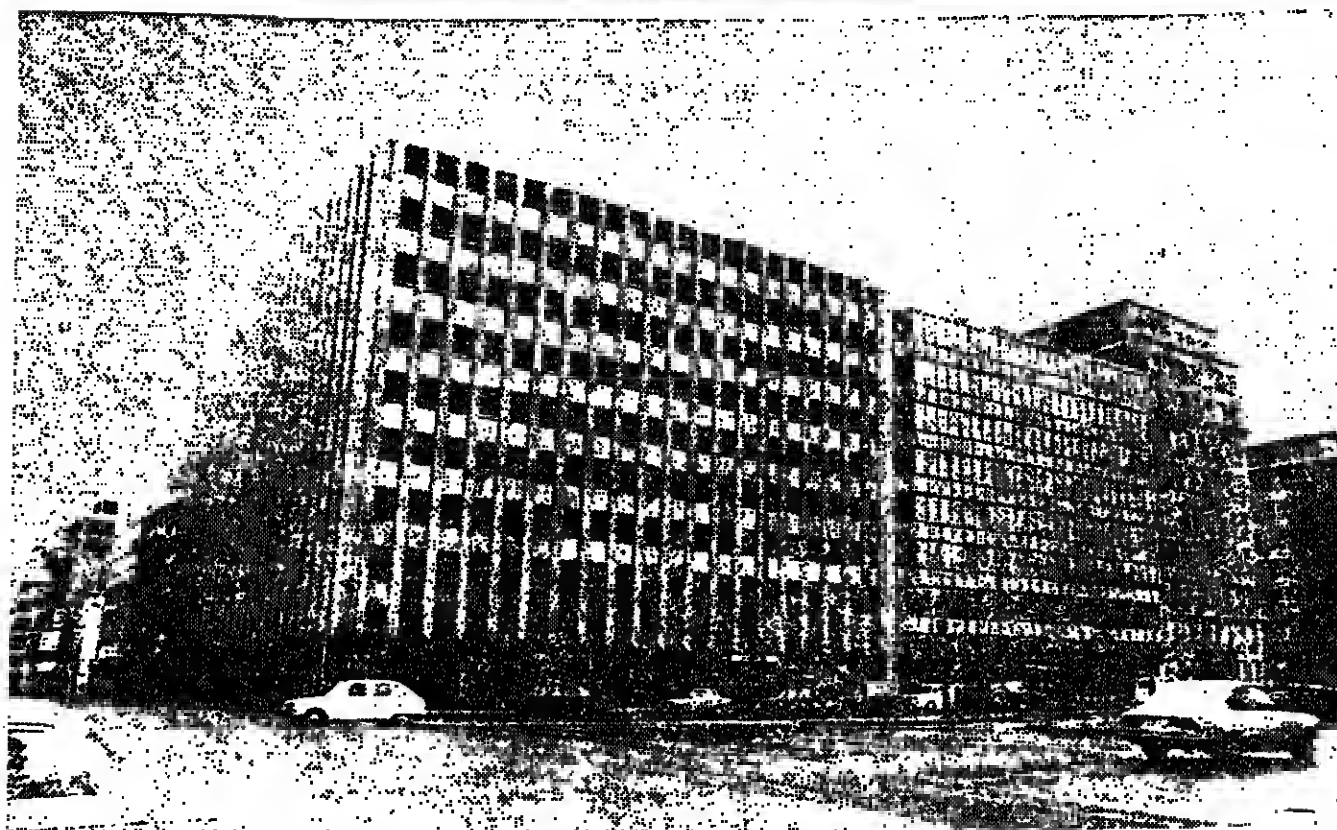
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BELGIAN BANKING AND FINANCE II



Part of the banking quarter in Brussels

Foreign loans replace tired home market

BELGIUM'S domestic borrowing programme this year ran into the problems posed by an overtopped and tired market almost as soon as it had begun. In previous years the authorities—the Government and the public sector institutions that just about monopolise the domestic bond market—somehow scraped by. This year, things are not looking so good.

In January the Kingdom itself launched the 1980 borrowing programme with an issue that was intended to raise around BFr 55bn to BFr 60bn. The bond carried a post-war record coupon of 11 per cent and was priced at par, with a life, as is usual with domestic issues, of around nine years.

Participants among the banking syndicate underwriting the issue were enthusiastic that the money could be raised with the minimum of fuss. A lot of people were impressed by the coupon. But in these difficult days operators in Belgium, like their counterparts the world over, are staying at the short end of the market, where interest rates even in January were a good two points above the effective yield of the bond.

Disaster

At the end of the "selling period" on the primary market it was estimated that at least 50 per cent of the issue was left with the underwriters. As far as investors—small and large alike—were concerned the issue was an unmitigated disaster.

The State got its BFr 60bn in the end, but the banks told the Finance Ministry that there was no point in trying to raise any more money on the domestic market at least until after Easter. Even then an 11 per cent coupon would look rather weak.

Belgium needs to borrow about BFr 350bn this year, about BFr 15bn more than last year. The public debt figure repre-

sents around 7 per cent of Gross National Product (GNP) this year, although Prime Minister Wilfried Martens has declared that he intends to cut the deficit to about 6.5 per cent of GNP this year. His aim is to try to reduce the proportion of GNP that the public debt represents by around 1 per cent a year until it reaches the more reasonable figure of 5 per cent.

Meanwhile, the money is still needed, and even the secondary market looks grim. Banks which started to unload earlier bond issues on to the secondary market were telephoned by the Finance Ministry, with the discreet but firm message that they were not permitted to reduce their portfolios from current levels.

This was a classic example of the way things are done in Belgium. With its embattled currency and shaky economy the authorities resort more and more to operating in secret, with no public announcements.

This is a highly understandable reaction to the outside forces that threaten this small country, extremely vulnerable to economic and financial pressures from outside.

Borrowing policy this year is very likely to be characterised by a shift from reliance on the domestic market towards foreign borrowing. Since the beginning of this year about DM 900m have been raised in private placements through West German banks. The Finance Ministry is putting the final touches to a syndicated Eurocredit for the State of about \$1.5bn, which will be led-managed by Societe Generale de Banque and for which Banque Bruxelles Lambert is agent. This loan follows last year's first-ever sale into the Eurocredit market by Belgium when it raised \$1bn over an eight-year period.

Negotiations for the current credit are said to be tough, with Belgium holding out for a mar-

gin which includes an element of 1 per cent above LIBOR (London Interbank Offered Rate). When Belgium raised its first Euroloan last December, it negotiated a 4 per cent margin for the first four years rising to a 1 per cent for the remaining four years of the credit's life. Since then, however, conditions in the market have changed, with international banks—shaken by events in Iran and Afghanistan—being altogether more cautious in their lending. Belgium is a prime borrower, its name linked to the European Community, but even so the fine terms it is seeking now may prove difficult to achieve.

Arranging

Once this Euroloan is raised Belgium will approach the Euromarkets once more this year for about another \$1bn, and Kredietbank has already been named as the arranging bank.

So the authorities have already taken to heart what domestic bankers have told them. The Belgian capital market is going to prove difficult to tap this year.

Last year the public sector raised BFr 280bn on the domestic market, the balance of its requirements being made up through short-term foreign credits, private placements denominated in D-marks and the jumbo Eurocredit.

At the beginning of the year the authorities had intended to seek a similar amount from the market. But if the current trend towards overseas loans is anything to go by only BFr 240bn will be raised on the domestic market. Of that BFr 60bn has already been funded. And if Mr. Martens succeeds in cutting the deficit this year perhaps BFr 20-30bn can be lopped off the amount that needs to be funded domestically.

But the likely outcome is a

much greater reliance on foreign borrowings. The churl has set in throughout Western bond markets. One leading banker recently remarked that his problem was not to convince the borrower, the safety of the currency, or even the attraction of the conditions. He had to face up to the fact that investors are becoming increasingly shy of bonds themselves.

In Belgium, funding the public sector debt will hit not only this stumbling block; the problem is likely to be compounded by the trend in interest rates and inflation, making it increasingly difficult to set attractive terms for forthcoming issues.

The country's stubborn defence of the franc has pushed domestic interest rates up to record levels. The persistent intervention by the National Bank has kept the money market starved for many months now, driving up the cost of attracting funds. Added to this is a new thrust to inflation provided by spiralling energy costs. From an average of below 5 per cent in 1979 the inflation rate is likely to grow to between 6.5 and 7 per cent. Only the onset of a recession, moderating energy demand, is likely to keep the acceleration within reasonable bounds.

Short-term rates are kept high by intervention, and long-term interest rates seem at the outset unlikely to fare any better this year. But it is just possible that a moderation in the inflation trend combined with a much larger dependence on foreign credits could eventually relieve some of the upward pressure that currently underpins the long-term interest rate structure in Belgium. But the main problems of the future may turn out to be related more to foreign rather than domestic debt.

Paul Christopher

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KREDIETBANK, THE smallest of Belgium's big three banks, prides itself as the most dynamic and profitable. Banque Bruxelles Lambert, still reeling from its 1974-75 financial setback, has a lean and hungry look and says it is making essential reforms years ahead of its competitors. The No. 1 bank, Societe Generale de Banque, which has been around longer than Belgium itself, claims it has always been and still is in a class by itself, "la grande dame" of Belgian Banking.

These are the self-portraits that emerged in conversations with leading members of the Belgian financial community—and none is really far off the mark. Predictably each bank emphasised its own strengths and happily pointed out the weaknesses it perceived in its rivals. At the same time none took the boasts of its challengers lightly. Indeed all displayed a healthy respect for one another. They reserved their fire for the free-spending, high-handed ways of government, and their fears for that great unknown, the looming recession. If they had an obsession, it was leaping short-term interest rates.

Complained

"The coming years will be very difficult for all of us," one banker said. "The chief problem is high rates. We are seeing a very small profit margin." A top official at another bank complained that money was coming in much too slowly, whereas demand, both public and private, showed no sign of letting up. "They [the borrowers] want more and more and more," he said, "but the capital market has just about dried up." With short-term deposit rates now in excess of 16 per cent, he suggested, "there's really no alternative to a recession."

An economist at the third bank, told of the remarks of his counterparts, said: "On that, at least, we're all on the same wavelength. Interest costs would just keep going up, he said. "You must realise that taken together the three institutions have about half their assets locked up in long-term paper, with relatively low yields. We're all getting squeezed." To make matters worse, he said, too many financial groups are chasing too few funds. "Belgium is over-banked. We all know it."

Other bankers point out that the bleak outlook seems to be giving Bruxelles Lambert the most headaches. Given good times, they say, the struggling enterprise might have been able to get back on its feet, but the

current situation threatens to prove new crises.

But Banque Bruxelles Lambert hotly disputes this analysis. It admits that the questionable foreign exchange dealings of the former Banque Bruxelles, ending in its merger with the Banque Lambert in 1975, represent a continuing burden. Bruxelles Lambert is still absorbing the estimated BFr 3.5bn loss from the irregularities, which it variously refers to as the "difficulties," the "drama" and the "error." Moreover, Bruxelles Lambert executives concede that meshing the personnel and the physical structures of two quite different organisations was an arduous task that would take several more years to complete. But they insisted that the bank now has several advantages.

A much more determined effort is being made to boost productivity, increase efficiency and allocate resources rationally. "We're doing this systematically, because we have to. We have to streamline operations; we have no choice," one executive said. "We've got a good two-year head start." In line with this, the bank is achieving greater progress than its competitors in mechanising key services.

There is an overabundance of fixed assets (for example buildings), with the consequent opportunity of selling them off for interest-yielding cash. Finally, there are the benefits of an anticipated winding down of the heavy "extra expenses" incurred in making up for the deficiencies of the early 1970s in pension benefits and other workforce-related costs.

If the mood at Bruxelles Lambert is somewhat cautious, that at Kredietbank is aggressively confident. Officials at all three banks—and outside experts too—agree that its unchallenged dominance in booming Flanders gives it a decided edge over its Wallonia-based rivals.

Kredietbank emphasises its profits record, which have risen over two decades from BFr 36m in 1950 to BFr 1.65bn last year. The bank's degree of profitability—the highest in Belgium and one of the highest in Western Europe—is largely attributed to the rapidly growing Flemish economy.

Kredietbank was also the first Belgian bank to seek wholeheartedly the business of the general public, and was the first to send top-level representatives to the U.S. in the post-war years to attract dollars across the Atlantic. It has been more active on the Eurobond and foreign exchange markets

than its bigger competitors.

Belgium's dominant bank, though, is unquestionably the Societe Generale de Banque. Once labelled a slumbering giant, it now seems to have woken up. It was founded by the Dutch Royal family and was a success even before the Belgian State was founded in 1830. For nearly a quarter of a century it functioned as the young nation's effective central bank.

Crises

"We've gone through quite a few crises, and in recent years we've lost only a small share of the market—and this not so much to the other two big banks as to medium-sized and foreign institutions," said one Societe Generale executive.

Societe Generale ranks first in Eurocredits, and is active in 30 countries, either through direct affiliates or participation in joint ventures. Its consolidated balance sheet for 1979 was probably close to BFr 1,000bn—roughly equal to the Belgian State budget.

One claim that Societe Generale da Banque makes—

that it is entirely independent of the giant holding company Societe Generale de Belgique—is often contested by others. "It has captive customers in some of the subsidiaries of Societe Generale de Belgique," one competitor said.

If they disagree on some matters, Belgium's Big Three at least seem to share a certain distrust of government. All, for example, looked askance at the State-supported Caisse Generale d'Epargne et Retraite (CGER), some charging it with unfair competition for public deposits. "Sometimes I get the impression that every Belgian has a passbook with CGER," one disgruntled banker said.

The big private banks complained most, however, about the public sector's unending thirst for funds and its huge spending deficit, which they early blamed for the weakness of the Belgian franc and for high domestic interest rates. Belgian banks lend proportionately more to the State than those in any other country in the West.

Brent Bowers

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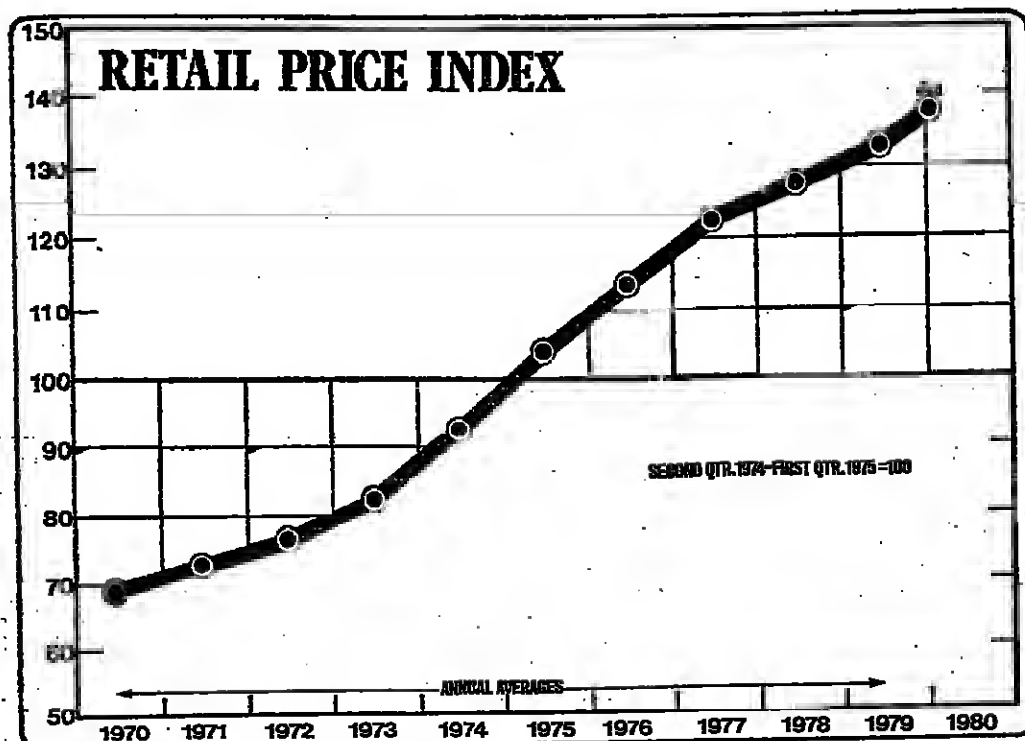
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BELGIAN BANKING AND FINANCE III

The Luxembourg connection



EMS tribulations for the franc

ON ANY reckoning the European Monetary System (EMS) has had a reasonably successful first year. Exchange rate stability between member currencies and the European Currency Unit (ECU) has been cut by nearly two-thirds in comparison and two realignments within the system were accomplished without serious turmoil.

But a major—and ironical—feature of the first 12 months was that one of the currencies which suffered the most serious tribulations was the Belgian franc. By the end of 1979 Belgium's National Bank had employed an unprecedented BFR 113bn in buttressing the currency so as to keep it within the system's permitted 2.25 per cent margin of fluctuation and to avoid a devaluation.

At the same time the Belgian Government has been forced into a progressive tightening of monetary and fiscal policies. Interest rates have climbed to record levels. Belgian unemployment at 9.2 per cent is way above the Community average of 6.4 per cent, and the economic outlook is still set somewhere between uncertain and stormy.

Fervour

This has been pretty stiff medicine for a country to have to take through membership of a currency system which many of its senior officials support with almost evangelical fervour. Nevertheless the mood remains one of cheerful acceptance. But Jacques Van Ypersele, chief of cabinet to Belgian Prime Minister Wilfried Martens, concedes that the pressure on the franc during the last 12 months has been stronger than expected, largely because of the tensions created by the Deutsche Mark's appreciation against the dollar and because Belgium's relatively modest year on year inflation rate—4.5 per cent—proved a less important factor than anticipated.

But the EMS, even at its present embryonic stage, satisfies some very basic economic and political requirements for a country such as Belgium. Foreign trade is the equivalent of nearly 50 per cent of the country's Gross Domestic Product and no less than 40 per cent of this trade is with two close neighbours, the Netherlands and West Germany. Moreover, Belgium and the Netherlands have a fully open border for agricultural products. There is thus a very strong Belgian requirement for as much exchange rate stability as possible, particularly between the D-mark, the Dutch guilder and the Belgian franc. Equally, there is a need for an external pressure capable of overcoming, when the need arises, a policy "immobilisme" which has periodically gripped the country during its 35 political crises of the last 40 years.

The truly novel feature of EMS, the so-called "divergence indicator", is politically and economically ideal for Belgium. Essentially, the divergence indicator is first of all a signal of either impending weakness or excessive strength and is triggered when a currency reaches 75 per cent of its maximum deviation from its ECU central rate. By agreement ECU heads of Government, there is a presumption that when the divergence indicator is crossed corrective action will be taken. This involves diversified interventions, domestic monetary policy measures, changes in central rates or "other measures" of economic policy.

Although there is no clear definition of the corrective action to be taken—nor indeed is it mandatory to act at all—Belgium has chosen to regard the EMS agreement as a sort of external rule book involving a set of obligations which the country's politicians cannot easily subordinate to their domestic objectives.

Thus when the Belgian franc first crossed the divergence threshold at the end of last April the National Bank launched into a series of interest

rate increases which took its discount rate from 6.1 per cent in mid-March, 1979 to 14 per cent a year later. The Government meanwhile stepped up its struggle to get a grip on public spending and during the course of the year produced a draft budget for 1980 projecting no increase in public expenditure in real terms. For 1981, the Government is aiming to cut its budget deficit from the BFR 92bn envisaged this year to BFR 50bn.

Thus the Belgians argue that, if not all of the desirable policy responses have now been made, and indeed were being made at a time last year when some partners in the EMS appeared to be making management of the Belgian franc unnecessarily difficult.

Central bankers are famed for their discretion but at the National Bank the mask occasionally slips when the subject of West German interest rate policy and currency management arises. The problem is rarely publicly defined but the problems of last year, highlighted a lack of coordination of intervention tactics between central banks vis-à-vis the dollar. The Bundesbank's first priority for the last nine months has been to prevent the dollar rising too strongly against the D-mark and this in turn has created special strains for the Belgian franc and the Danish krone, which was eventually devalued by 3 per cent in September last year.

"Too often still, the growing interdependence of European economies is underestimated, and autonomy of action jealously guarded. Smaller countries can only follow," peevishly commented the National Bank of Belgium in its annual report for 1979.

While EMS may be a relative haven of currency stability in a world where much greater volatility is the norm, the particular problems created by the dollar and U.S. interest rate policy since last October point to the need for moves to lower tensions.

The Council of Ministers asked the European Commission last June to produce some proposals which could lead to greater co-ordination of economic and monetary policies. Since then it has become clear that it is not only the tensions within EMS which demand better co-ordination between various national authorities but also the fact that the system itself is hardly the degree of economic convergence hoped for.

Difference

The best illustration of this is the widening gap between inflation rates of the countries participating in EMS. Last year the difference between the best, West Germany, and the worst, Italy, was 11 percentage points. This year the gap is expected to be even wider and if the EMS were working perfectly, the lire could be expected to be in trouble, forcing the Italian authorities into tightening a monetary policy which senior Italian businessmen acknowledge is now far too lax.

But the EMS exerts no external discipline for Italy because the lire remains one of the strongest currencies in the system. The reason remains the fact that for the time being inflation differentials are much less important in determining currency values than balance of payments.

Now it could be argued that the Belgian franc's difficulties within the EMS owe something to the fact that its value was pegged too high when the system started. The Belgium and Luxembourg current balance was consistently in surplus until 1976 when it incurred a modest BFR 1.6bn deficit.

Since then, however, all modesty has disappeared under the stress of rising oil prices and last year the current account deficit leaped from BFR 28.8bn in 1978 to BFR 85bn. Little significant improvement is expected this year and the Belgian franc has been rocky throughout the first quarter.

Whether devaluation can

finally be staved off partially depends, however, on the extent to which the Belgian problem becomes more general. Only Italy is expected to register a balance of payments surplus this year, while most others in the EMS, notably West Germany, are expected to suffer a sharp deterioration in balance of payments.

This, together with the Government's moves to cut its borrowing requirement, should help the Belgian franc. Perhaps a more broadly based Government policy, including perhaps the Liberals, is also what is needed to restore the Belgian franc to its accustomed place in the sun.

John Wyles

THE PROVOCATIVE, perhaps mildly malicious, observer might be tempted to suggest that the fastest growing and most attractive Belgian financial centre these days is not Belgium at all, but in Luxembourg.

It is not true, of course, yet it is uncomfortably close to the truth. For the tiny landlocked Grand Duchy of Luxembourg, just 200 km to the south of Brussels, has in the past decade become an international banking phenomenon that has close if not exactly clearly defined links with Belgium. It is that lack of clarity that makes Belgian investors' use of Luxembourg a touchy subject.

Belgian banks first moved heavily into Luxembourg in the late 1940s, when they provided the launching pad for its banking take-off of 20 years later. They continue to play a major part in Luxembourg's development as a major centre for the Eurozone, yet the ambivalent relationship between Belgium and Luxembourg that stems from their economic union further complicates the Belgian banks' role there.

For Belgium and Luxembourg are partners in an economic union that gives them a common currency—Luxembourg prints only low denomination franc notes of its own—and groups their foreign trade and payments positions as one. For all the international banking names that now dominate the 108 banks active in Luxembourg today, the Grand Duchy has no central bank of its own.

But while there is this monetary marriage, the Belgian and Luxembourg Governments operate very different banking and fiscal policies. Taken with the fact that there are no workable controls on currency movements between the countries, that has meant that Luxembourg's banks, with their stringent banking secrecy laws, can be a magnet for Belgian funds.

Belgians are in any event reputed to keep a high proportion of private savings outside the country and out of reach

of the tax man. The attractions of Luxembourg's banks, where non-residents' accounts are liable to neither local taxes nor outside inspection, are thus clear enough.

The Belgian authorities are understandably sensitive on the topic, although realists sometimes suggest that it is preferable for money that Belgians could just as easily deposit in, say, the Netherlands, to remain inside the *monnaie* of the Belgian-Luxembourg economic union. They would even add that if some device were found to clamp down on the clandestine transfer of funds, then Belgians would simply deposit savings elsewhere at the expense of the economic union's joint balance of payments.

This last is a crucial factor in determining the way Belgium looks at the thriving international banking centre on its doorstep. Recently Belgium's bank in Brussels—paid its first tribute to Luxembourg with a reference to the positive con-

tribution it now makes to the payments position.

The growth in Luxembourg's banking sector and in the volume of Eurocurrency loans handled has been little short of dramatic. Only 15 years ago Luxembourg's financial sector numbered just 20 banks, with balance sheets totalling LuxFr 47.5bn. By the early 1970s the number of banks had nearly doubled and their combined balance sheets totalled around LuxFr 1,000bn. By the end of last year that balance sheet mark had passed LuxFr 3,000bn.

Unlikely

That last total is the equivalent of about \$100bn and compares with the \$280bn combined balance sheet of all foreign banks operating in the City of London. But although Luxembourg has achieved a hundredfold growth in banking since 1965, bankers in the Grand Duchy point out that it is unlikely ever to rival centres such as London because of the

lack of financial infrastructure. Luxembourg's banks may be the Grand Duchy's principal source of tax revenue and the greatest stimulus for economic growth, but the absence of a strong stock market, merchant banking services and a spread of secondary markets means that it fails to rival Brussels as a Belgian financial centre.

In Belgian eyes, though, Luxembourg remains a somewhat controversial banking centre. To some extent it is the involvement of Belgium's Big Three banks—Société Générale de Banque, Banque Bruxelles Lambert and Kredietbank—inside the Grand Duchy that is responsible. For the precise status of their Luxembourg operations is not easy to define. At best it has created mystery where probably none is justified.

All three moved into the Grand Duchy in a substantial way when it became clear after World War II that Luxembourg's own small banks could handle savings and retail business but were ill-equipped

to cope with the corporate business that the country's foreign investment programmes would bring. Kredietbank was in the forefront of that move and brought with it its growing emphasis on retail banking.

Société Générale de Banque and Banque Bruxelles Lambert both have minority interests in their respective Luxembourg operations, while Kredietbank's stake in its Luxembourg affiliate is a majority one of undisclosed size. Perhaps the uncertain relationship that exists across the Belgian-Luxembourg frontier is best illustrated by the fact that not long ago the Belgian regulatory officials of the Commission Bancaire felt the need to warn the Belgian banks against directing certain categories of their domestic business toward Luxembourg. Advising Belgian investors on the advantages of depositing funds in the Grand Duchy is an offence that could technically lead to a Belgian bank's licence being revoked.

Giles Merritt



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